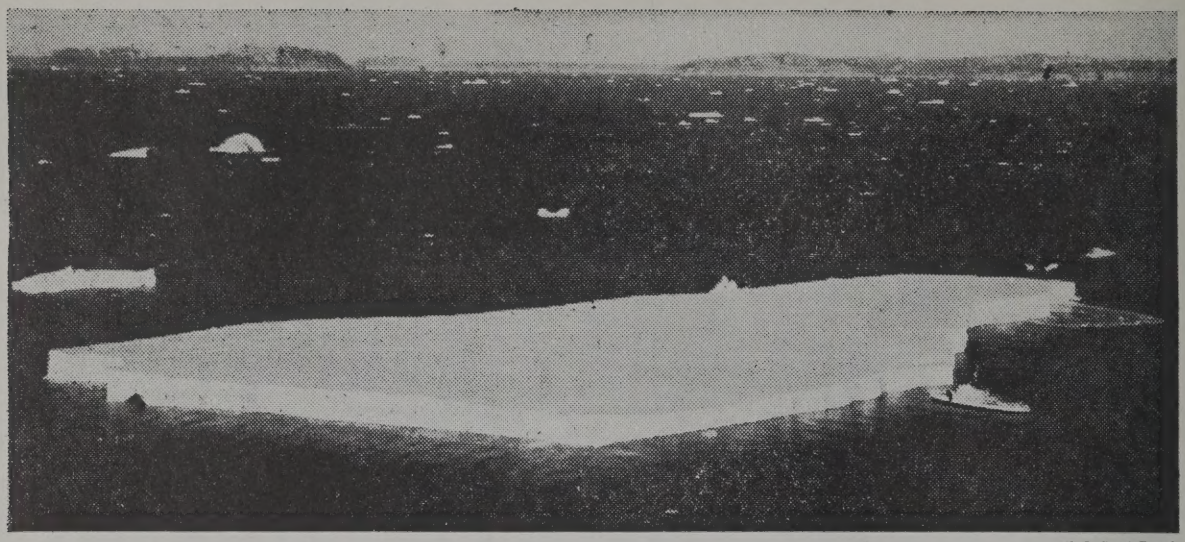
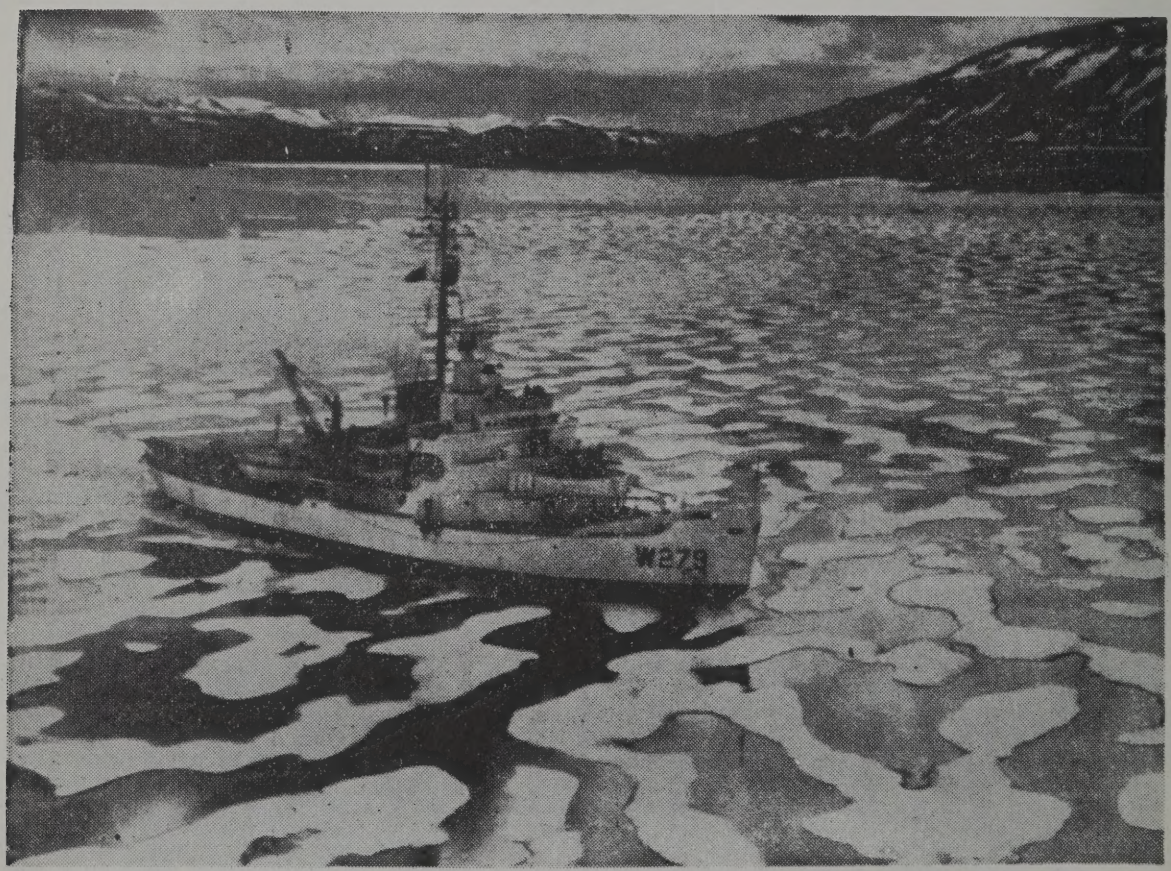
THE POLAR TIMES

Locked in the ice of the eastern Arctic, the H. M. C. S. Labrador of Canada takes measures to clear the way. Members of the ship's underwater diving team prepare to plant explosives to blast path to open water. The Labrador is making a joint hydrographic survey for the United States and Canada. The results of the study will be used later this year for landing personnel and equipment from a U. S. Navy task force for construction of Arctic radar outpost.



U. S. Coast Guard

LARGEST ICEBERG OF SEASON: This photograph was taken from a helicopter stationed aboard icebreaker Westwind, which returned here from Arctic trip. Westwind, at lower right, is 270 feet long. Iceberg is three-fourths of a mile long, one-half mile wide, 80 feet showing above the water and 560 feet below water line.



ICY DESIGN: With ice floes forming a mosaic-like pattern, the Coast Guard icebreaker Eastwind cruises through Arctic waters on a recent patrol. The picture was released when the Eastwind put into port for reconditioning after three months' duty on top of the world.

U.S. Coast Guard.

The Polar Times

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No. 41 DECEMBER 1955.

ANTARCTICA: LAST GREAT UNEXPLORED CONTINENT

By ANTHONY LEVIERO

WASHINGTON, Dec. 10—The icy Antarctic will probably generate warm good-feeling during the forthcoming geophysical explorations. Beyond that, however, the forbidding continent looms as a prize that will be bitterly contested in what may well develop into the world's cold war II.

For the strategists of the major nations have been applying their dividers to the polar projection of the nether side of the world. They measure there a vast realm for testing or even warring with the latest weapon, the intercontinental ballistics missile with a hydrogen bomb for a warhead.

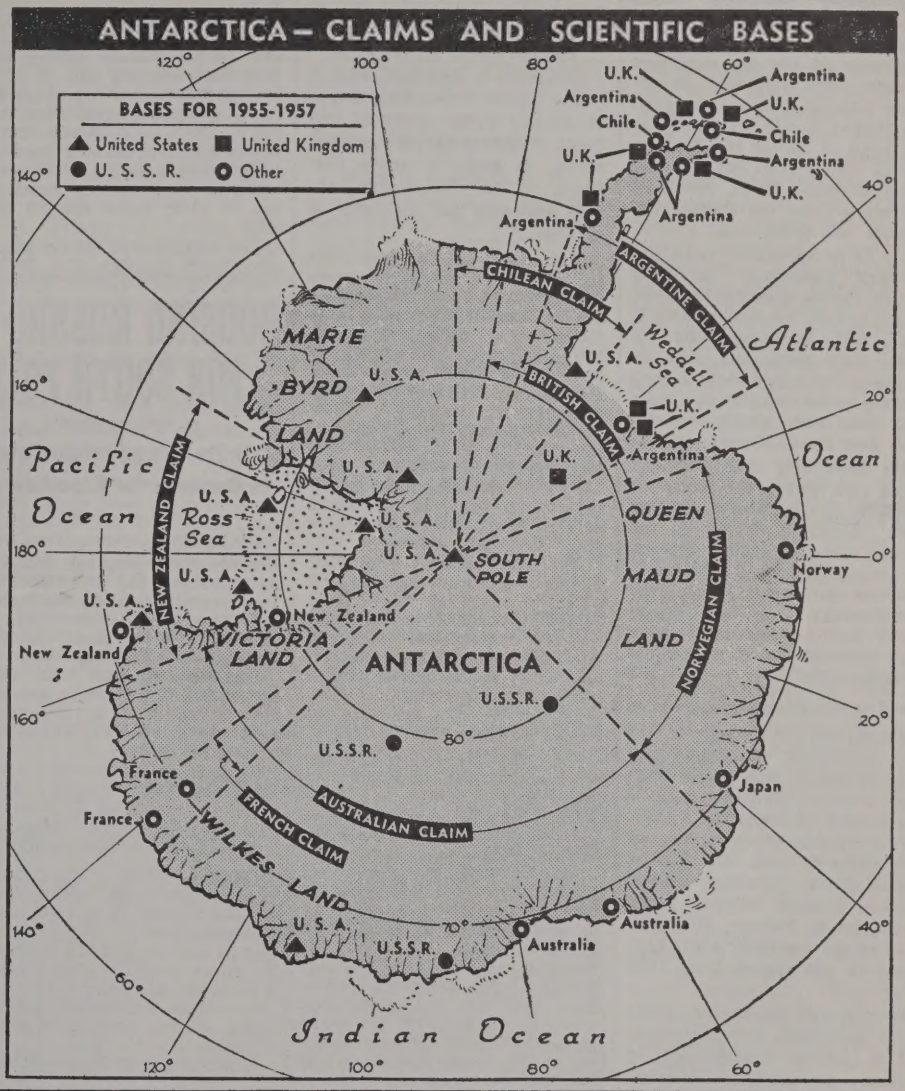
They view Antarctica as a vast strategic center from which air and naval fleets may control the vital seaways around the far corners of the African, South American and Australian continents. And they surmise that deep under the ice are great deposits of natural resources which a depleted world will have to tap some day at all costs.

The fact that modern technology, perhaps based on nuclear power for heat and light, may make life tolerable in the uninhabited land spices current thinking about Antarctica.

What is the region like? Most of its inner reaches have never been seen, much less trod, by man. It has been said that probably more is known of the sunlit side of the moon than of Antarctica. It is more than 5,000,000 square miles in area, nearly as vast as South America.

It has a coastline of nearly 14,000 miles. Unlike the Arctic, it has plenty of land, volcanoes, high mountain peaks, hardly any vegetation, and formidable formations of ice—cliffs, barriers, ice tongues. The Atlantic, Pacific and Indian Oceans surround the solid belt of ice that walls in the whole continent.

This is the land that grasping hands of sovereignty have already sliced into big piecuts. When the asserted claims of several nations are marked off along the converging lines of longitude on a South Polar projection, they make vivid triangles. These triangles overlap and in that is the pattern of future conflict.



Only one great piecut is devoid of formal claims, and that encompasses most of the area into which the United States has sent its explorers, notably the five successive expeditions, including the present one, of Rear Admiral Richard E. Byrd.

Some officials feel it is high time that the United States staked out its claim and proclaimed its interest and aspirations in Antarctica. But the considered policy now is not to agitate a new and vexing problem when the world already has so many.

This country wishes the work of the International Geophysical Year, 1957-58, with its promises of scientific rewards, to go forward unmarred. The several expeditions now heading for Antarctica will participate in worldwide observation of weather and other terrestrial and astronomical phenomena. It is a great cooperative effort of forty nations in man's never ending quest for knowledge of his environment.

But what happens after science is put aside? Some officials are convinced that the United States and Russia, as well as other countries, will convert their scientific camps into permanent bases for the purpose of asserting territorial title. The United States has made no public suggestion that it will do this, but did announce on Nov. 2 that it would establish a permanent agency for antarctic activity, with Admiral Byrd as its chief.

The strategic importance of Antarctica from the American point of view may be summarized as follows:

(1) In an age when the nuclear devastation of the Northern Hemisphere is possible, the Southern Hemisphere assumes a new strategic importance. The antarctic continent is its geo-

graphic center, and the three oceans link Australia, New Zealand, South America, and Africa.

(2) Submarine and raider bases in Antarctica would be of considerable importance to Russia in attacking allied shipping. Such bases would not be easy to operate, but even small deposits of armaments, food and fuel hidden before hostilities would make serious raids possible.

(3) The oceans washing the periphery of the icy continent already have strategic importance because some of the newest United States warships are too large to transit the Panama Canal. Hence they have to pass south of Cape Horn, less than 600 miles from the Palmer Peninsula of Antarctica.

(4) It is important from the military standpoint to press United States scientific interest in Antarctica because comparatively little is known about its effect upon radio and weather. Moreover as a land mass, it may contain great natural resources that may now be discoverable with new scientific instruments.

(5) Relatively cheap options taken now may prove richly rewarding in the future. Alaska, once "Seward's Folly," is the classic case of a forbidding country that has proved immensely valuable for natural resources and strategy.

The major claims that have been asserted are shown on the accompanying map.

No Formal Claim

Russia has not asserted a formal territorial claim but has been saying of late that a Russian, Admiral Fabian von Bellingshausen of Alexander I's Imperial Russian Navy discovered Antarctica in 1821. The United States claims, however, that a Yankee whaling skipper, Capt. Nathaniel B. Palmer, first discovered the continent while voyaging in the region from 1819 to 1821.

Most Arctic jurisdictional disputes have been settled according to norms worked out in various international conferences and agreements. No norms have been formulated, however, for Antarctica and it appears that some new law will have to be developed.

The United States recognizes none of the claims to Antarctica as valid. Some legal authorities believe international law on effective occupancy should be redefined for areas that cannot normally be used for human habitation. The present position of the United States is that no claim should be recognized or considered settled until an international conference is called to deal with all of them.

U.S. MAPS LANDING ONTO SOUTH POLE

Navy Planes Will Endeavor to Reach Spot Considered Inaccessible by Air

By WALTER SULLIVAN

BRUSSELS, Belgium, Sept. 8 —The United States Navy hopes to land a large plane at the South Pole next January or February. It seeks to prove that flying in the fifteen-man station projected for that spot is feasible.

The only men who ever have set foot at the South Pole were the parties of Scott and Amundsen, who raced for that goal in the season of 1911-12. The pole lies in the most inaccessible region in the world, on a 10,000-foot plateau, isolated by a wall of mighty mountains.

Rear Admiral Richard E. Byrd has flown over the South Pole twice. However, a landing there has been avoided because its elevation is so great and the air is so thin that it was doubted a plane could take off again.

The polar station, like other phases of the United States program, is part of the United States contribution to the International Geophysical Year. A conference opened here today to coordinate the efforts of almost forty nations planning to participate in world-wide scientific observations from 1957 to 1958.

Representatives of nations planning to send expeditions to Antarctica, including Britain, France, the United States and the Soviet Union, met in Paris in July. They agreed that each country should furnish information on radio and rescue facilities available at its bases there in case a plane or trail party got into trouble.

Accordingly, the United States delegation has drafted a tabulation that for the first time indicates the scope of the seven projected United States outposts on the Continent. The tabulation also revealed that the attempt to land at the pole would be made in January or February.

The seven camps are to provide winter accommodations for the following numbers of men:

Little America (at Kainan Bay) —Sixty men.

Air operating facility (at McMurdo Sound)—Sixty men.

Byrd Station (Lat. 80 degrees S., Long. 120 degrees W.)—Twenty-five men.

Vahsel Bay—Twelve men.

Knox Coast—Nineteen men.

Polar Station—Fifteen men.

Temporary Outpost—Ten men.

The United States delegation to the conference here is headed by Joseph Kaplan of the University of California in Los Angeles. He is chairman of the United States Committee for the International Geophysical Year. The group includes Rear Admiral George Dufex, who will command the naval forces in the Antarctic, with Admiral Byrd in charge of the expedition.

Doctors will be stationed at six of the seven United States stations, the exception being the temporary outpost.

The latter is to be manned only as an intermediate radio and rescue station during the long hops over the pole. It is to be occupied in January and February, 1956, and again from October, 1956, to February, 1957. It probably will be near the foot of Beardmore glacier, which was ascended by Scott and Shackelton in their treks toward the pole.

The outpost will have a small amount of aviation gasoline, a light ski-equipped plane and a dog team. If the plane that lands at the pole is unable to get into the air again, men from this station will have to go up the glacier on foot and help bring out the crew.

The Navy plans to fly six planes from New Zealand to McMurdo Sound in mid-December. They will include P-2V Neptunes and twin-engined Douglas transport planes capable of operating either on skis or on wheels.

When fully established, the Antarctic bases will have the latest electronic aids to air operations. Ground controlled approach equipment, capable of "talking down" planes in a pea soup fog, is slated for the air strips at Little America, McMurdo Sound, Knox Coast and Vahsel Bay.

HOUSING RUSHED FOR SOUTH POLE

60 Units Being Prefabricated in Danbury for Expedition

DANBURY, Conn., Oct. 9—Prefabricated housing designed to withstand the icy blasts of the Antarctic is being hammered out these warm October days in a modest little plant on the Danbury-Brewster highway.

One hundred and forty men are racing the clock to get the material ready for the departure next month of a Navy expedition to the South Pole.

The Danbury concern — the Clements Panels Company—provided the same sort of buildings five years ago for Thule Air Force Base in Greenland.

The $1,000,000 contract calls for sixty buildings, ranging from a mess hall 20 by 96 feet to an "inflation shelter," 20 by 16, that will be used for launching weather balloons. The prefabricated structures are being shipped in knock-down form to the expedition's staging area at Quonset Point, R. I.

There, Navy Seabees will load the crated paneling — roofs, doors, walls and floors—on ships that will take the expedition's supplies to the main base near Little America. Some of the structures will be erected there, others at additional Antarctic bases.

The four-inch prefabricated plywood panels of which the buildings are constructed are insulated with fiberglass and are aluminum-lined. Lyman Sanders, vice president and plant manager, said the buildings would keep the occupants comfortable at an outside temperature of 100 degrees below zero.

Three thicknesses of glass, with two air spaces between, are used for the windows. The doors, four inches thick, are sealed against the cold by a special rubber gasket that is impervious to below-zero temperatures.

Richard S. Moulton, a veteran of many trips to the antarctic and a member of the 1939-41 Byrd expedition, is acting as consultant to the Clements concern. He commutes week-ends to his home in Wonalancet, N. H.

Mr. Moulton explained that extensive tests were made early this summer before final specifications were approved. Two prototype buildings, each 20 by 40 feet, were assembled and subjected to severe temperatures in a special "cold chamber" at the Detroit Arsenal.

The contract calls for several nonmagnetic buildings to house scientific equipment, such as seismographs. Panels for these structures are fastened with bronze clips instead of steel, and the nails are either bronze or aluminum.

A coat of paint is the last step before the panels are crated and piled in waiting railroad boxcars. The paint is not for decorative purposes but to prevent moisture seepage during the long trip to the polar region. Once the buildings are erected, snow and ice will be their only covering.

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Care August Howard, Secretary, 98-20 62nd Drive (Apt. 7H), Rego Park 74, New York.

AUGUST HOWARD, Editor

THE POLAR TIMES highly recommends "The Polar Record," published by the Scott Polar Research Institute, Cambridge, England.

The American Polar Society was founded Nov. 29, 1934, to band together all persons interested in polar exploration. Membership dues are one dollar a year, which entitles members to receive THE POLAR TIMES twice a year.

Back issues are 50 cents each.

Directive Puts Byrd in Charge Of All U. S. Antarctic Activities

Orders Issued as Operation Begins—Permanent Base Is Believed to Be Aim

WASHINGTON, Nov. 2—Rear Admiral Richard E. Byrd, retired, was placed in charge of all Antarctic activities of the United States today.

The appointment, made by direction of President Eisenhower, was announced in a directive by Reuben B. Robertson Jr., acting Secretary of Defense. Navy spokesmen said the directive, in the form of a letter to Admiral Byrd, would eventually place the United States on the same footing as Chile, Argentina, Britain and Australia, the countries that maintain permanent bases on the Antarctic continent.

The proposed program was viewed as a belated triumph for officials in the Government who felt the United States was neglecting an area that has a great strategic potential and natural resources.

The directive outlined the following program:

¶Admiral Byrd will be the senior United States representative "charged with maintaining effective monitorship over those political, scientific, legislative, and operational activities which comprise the total United States Antarctic program."

¶Admiral Byrd will act as adviser to the Operations Coordinating Board of the National Security Council on the preparation and execution of Antarctic policy. The board has the responsibility of making sure that Presidential directives are properly carried out.

¶A "permanent unit for Antarctic activity" will be established, with Admiral Byrd coordinating the activities of all participating governmental departments.

BYRD OFF TO JOIN PARTY

Leaves for New Zealand to Head Antarctic Expedition

SAN FRANCISCO, Nov. 26 (UP)—Rear Admiral Richard E. Byrd left by plane today for New Zealand to join Operation Deep Freeze, the United States' first attempt to establish a permanent settlement in the Antarctic.

A crowd of well-wishers was on hand at San Francisco International Airport as Admiral Byrd and members of his party boarded a Pan American Clipper.

It was the fifth expedition to the South Pole for the white-haired, 67-year-old explorer, who arrived here yesterday.

"Through this expedition we hope to establish a permanent settlement," Admiral Byrd said.

Admiral Byrd said other nations including the Soviet Union, Britain, France and Australia, intended to set up bases in the Antarctic in conjunction with the Geophysical Year of 1957-58.

"There ought to be about forty bases down there within two years," he said. "We will have five or six, including one at the South Geographic Pole."

Byrd at Auckland, N. Z.

AUCKLAND, N. Z., Nov. 30—Rear Admiral Richard E. Byrd arrived in Auckland tonight on his way to take up his command of the United States Operation Deepfreeze to the Antarctic.

He gave reassurance of United States intentions in Antarctic territory claimed by New Zealand. He doubted the United States intended now to make territorial claims.

Admiral Byrd by telephone offered help to Sir Edmund Hillary, conqueror of Everest and leader of the forthcoming New Zealand expedition to the Antarctic, which will have headquarters near this Americans' McMurdo Sound base. Byrd said "If we can help you down there you just call us. Anything we can do we will." Sir Edmund is leaving tomorrow for Montevideo, Uruguay, to join the British expedition.

United Press

OFF FOR ANTARCTIC: Rear Admiral Richard E. Byrd, center, is preparing here to leave Washington by plane for the antarctic on a venture he expects will lead to a permanent settlement on the icy continent. His associates are Dr. Paul A. Siple, Arlington, Va., left, making his fifth such trip with Admiral Byrd, and Capt. L. O. Matthews, chief of staff to the admiral.

SOUTH POLE GARB DEVELOPED HERE

New Clothing to Resist Cold Created by Navy Research for Antarctic Journey

There's a little room in Brooklyn, where icy breezes blow. The cold drops far past zero, and the Navy runs the show.

In that room, and at other testing facilities, discoveries have been made that will be appreciated by men about to start toward the South Pole in the Navy's Deepfreeze operation. Clothing that keeps men warm in the climatology laboratory is counted on to stand up against the subfreezing temperatures and high winds of Antarctica.

Standard clothing to be worn on Deepfreeze already has passed field tests, having been used in last year's Antarctic trip aboard the Atka.

During last summer's heat there was no dearth of volunteers to go indoors and try out the cold room. The climate can be lowered to forty degrees below zero, Fahrenheit. Winds up to fifty miles an hour are blown in. Humidity can be set at anything from zero to saturation.

One thing learned was that a person's hands and feet get cold faster when his head is not sufficiently covered—even when no discomfort is felt above the neck. The Navy researchers were not particularly concerned with the reason for this. They simply set about designing warm headgear.

The results of their efforts add up to eighteen pounds of many-layered clothing. The outfit is vastly different from the style set by the Eskimos and followed by earlier polar explorers.

The standard outfit for the Deepfreeze operation, which will set up bases for the International Geophysical Year, 1957-1958, starts with "itchless" waffle-knit cotton underwear, in two long pieces. Over this goes a two-piece suit of two layers of cotton insulated with an inner layer of nylon fleece.

The outer suit is proof against wind and water, with neoprene-coated nylon surface. Coat and pants are insulated with nylon fleece. For the jacket there is a detachable lining, quilted with acetate batting.

For the feet there are "itchless" cotton socks with padded soles, and thermo boots made of rubber insulated with wool felt and fleece. For the hands, thumbed mittens and inner gloves.

For the head there are earflapped ski caps and padded cloth helmets, with flaps to protect ears and face.

THE GLACIER SAILS FOR THE ROSS SEA

Icebreaker, Leader of Byrd's Antarctic Party, Is Loaded With Men and Equipment

BOSTON, Oct. 25 (AP).—The Navy's newest ice breaker, the Glacier, sailed today on the first leg of operation "Deep Freeze" into the Antarctic. The ship, capable of crushing sea ice up to fifteen feet thick, will stop at Norfolk, Va., for cargo and military and civilian specialists. She will leave Norfolk Monday on the second leg of the 14,000-mile voyage.

By BERNARD KALB

ABOARD U. S. S. GLACIER, off Florida, Nov. 3—This ship, the Navy's newest icebreaker, steamed south today on her first assignment, a 10,500-mile journey to Antarctica on behalf of science.

In the twenty-four hours since her departure at 10:30 A. M. yesterday from the Norfolk Naval Base in Virginia, the Glacier, the most powerful icebreaker in the United States fleet, sailed 340 miles closer to the South Pole. Her position late this afternoon was 335 miles east of Jacksonville.

Loaded to the gills, as her captain, Comdr. Eugene H. Maher of Ogden, Utah, describes the 8,600-ton vessel, the Glacier looks rather like a moving van on water. Her holds are stocked with a wide variety of the paraphernalia required to conquer the ice cap of the still largely unexplored continent.

Vehicles, construction tools and planes would have amazed Roald Amundsen of Norway and Capt. Robert F. Scott of Britain, both of whom reached the South Pole in the 1911-12 season by sled.

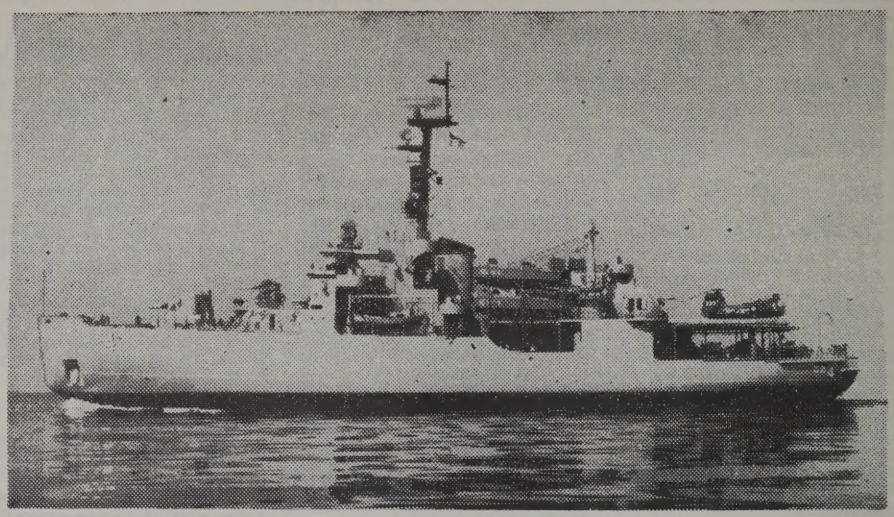
Aboard the Glacier is a remarkable assortment of equipment and manpower. For ice reconnaissance missions there are three amphibious weasels for transporting personnel and two snowcats. For reconnoitering the hazardous ice from the air, there are two Sikorsky HO4S-3 helicopters and a Canadian De Havilland DHC-3 Otter, the latter equipped with both skis and wheels.

The biggest piece of equipment being brought down by the 310-foot Glacier is a harbor oiler, the YOG-34, which is being towed all the way to Antarctica. The 174-foot craft, with twenty-five men aboard, is filled with more than 200,000 gallons of fuel. She will be frozen in at McMurdo Sound to serve as a fuel farm for the proposed air-operating facility to be constructed at that site.

In personnel, the Glacier is carrying her ship's company of twenty officers and 249 men. She is also serving as transport for an additional ninety-three passengers, officers, enlisted men, observers and experts.

Among the passengers is Lieut. Comdr. Jack Bursey, Coast Guard Reserve, of Grand Rapids, Mich., who will lead a trail party this season over about 500 miles of ice to the projected site of the Byrd station at Lat. 80 degrees S. Long. 120 degrees W. Another passenger is Comdr. Herbert W. Whitney of Arlington, Mass., chief of the special Seabee Mobile Construction Battalion, which will handle all construction including the building of a station at the South Pole.

About 120 Seabees will spend the winter on the continent to complete the construction of four stations, the Byrd station, the Pole station, the Little America station and the McMurdo Sound station, by the beginning of the 1956-57 season.



The Navy's largest and most powerful ice breaker, the 310-foot Glacier

270 New 'Shellbacks' On Antarctic Vessel

ABOARD THE U. S. S. GLACIER, off the Galapagos, Nov. 13—A crossing-the-equator ceremony, with Neptune holding court, took place on this icebreaker today, and 270 of the 337 men aboard will never forget it.

The 270, until the equator was crossed last night at Long. 88 degrees W. were just "slimy pollywogs"—in the Navy's vernacular. They were initiated into the order of the "trusty shellbacks."

The traditional ritual was directed by the original sixty-seven "trusty shellbacks" aboard the Glacier.

Crew's Dread of Antarctic Duty Changed to Interest by Lectures

ABOARD U. S. S. GLACIER, in the Pacific, Nov. 19—The United States Navy has a university at sea.

Its campus, the icebreaker Glacier, is overrun with gun turrets, instead of grass, its classes are held on scraps of free deck space instead of in paneled auditoriums and its students—the ship's company of 234 enlisted men—wear dungarees and T shirts instead of Ivy League gray flannels. But for anyone interested in majoring in the Antarctic, there probably is not a better alma mater on either side of the equator than the U. S. S. Glacier.

A series of lectures has just been started to give the crew a course in the world's seventh continent. Almost every phase of the Antarctic story is being covered, from Capt. James Cook, for the first time in history in 1773, to Operation Deepfreeze who crossed the Antarctic Circle in which the Glacier herself is participating.

By the middle of next month, when the Glacier begins battling the Ross Sea pack ice, the crew will have been thoroughly briefed on the Antarctic.

This orientation is being conducted by a faculty of men who are graduates of previous United States expeditions to the South Polar area.

Specifically, the crew is being told about the objectives of the operation, the seven outposts that will be constructed during the next two Antarctic summers and the way to outwit the hazardous ice.

That these lectures are paying off is evidenced by the fact that several crew members have changed their minds about this Antarctic assignment. When they first learned that they had been selected for the six-month round-trip journey, they felt miserable, they confided today.

"I want to go to the Riviera and here they are sending me to this rotten hole," one of the men recalled having said. But the lectures, coupled with training films, have aroused the crew's interest.

ABOARD U. S. S. GLACIER, at Sea, Nov. 4—A broken shackle on her oil barge towline brought this icebreaker to a stop yesterday 350 miles east of Jacksonville, Fla.

Five hours later the 1,700 feet of towline had been reeled in, the shackle replaced and the run to Antarctica resumed. Late today the Glacier and her tow were east of Miami on a 10,500-mile trip from Norfolk, Va., to McMurdo Sound on Ross Sea.

The barge will be a frozen-in aviation fuel tank for a United States base in the Antarctic.

U. S. Icebreaker in Panama

COLON, Panama, Nov. 8—The icebreaker U. S. S. Glacier, bound for the Antarctic, arrived here today after a six-day voyage from Norfolk, Va.

ANTARCTIC FLEET DINES ON TURKEY

U.S.S. Glacier Floats 3 Birds to Her Tanker—Gale Prevents Pie-Baking

ABOARD U. S. S. GLACIER, at Sea, Nov. 24—Wearing Navy lifejackets, three turkeys floated across 1,700 feet of the Pacific today, to end up as a Thanksgiving Day dinner.

The turkeys, about fifteen pounds apiece, were packaged in empty ammunition cans and were sent by towline from this icebreaker to the twenty-five-man tanker she is pulling to the Antarctic. Midway, an albatross wandered by and inspected the drifting gobblers. It presumably decided that, thus packaged, they were all right for human beings but not for albatrosses. The great sea bird flew off.

The lengths the Glacier went to today to provide her tow with regulation Thanksgiving chow was proof that not one of the 1,900 sailors and observers aboard the ships of Task Force 43 went without turkey. The Glacier at dinner time was about 6,000 miles from New York.

The holiday on this ship, which is carrying 337 persons, was pretty much representative of the festival aboard the Task Force's other vessels—the Arneb, the Edisto, the Wyandot, the Greenville Victory, the Eastwind, the Nespelen and two towed tankers.

After morning religious services the men made a beeline for the crew's mess hall. They found a mouth-watering menu. The only thing missing on the traditional holiday table was pumpkin pie, but that wa.n't the fault of the kitchen. It was the fault of yesterday's gale.

The severe rolling of the ship prevented the bakers from baking their pies. In fact, the seas were still rough today and the ship sailed 20 degrees off course during the dinner hour so that she could cut through the whitecaps, instead of being pounded by them, and thereby provide a smoother ride.

The gale yesterday stalled this icebreaker and her gasoline-filled tow for six hours.

Beginning at 11:30 A. M., steady winds of forty miles an hour, teamed up with heavy seas, walloped the Glacier and the tanker. Occasional gusts hit the ship at fifty miles an hour.

The Glacier rolled from side to side at angles to 20 degrees, her bow knifing through the whitecaps at a 15-degree pitch. As for the tow, she see-sawed wildly in the U-shaped waters like a toy boat in a bathtub.

Actually, the 8,600-ton Glacier, the Navy's newest and most powerful icebreaker, could have set her ten-engine power plant of 21,000 horsepower at full speed and made headway against the rough winds and water. But Commander Maher decided instead to ride out the gale at bare steerageway so that the 1,230-ton tanker would have an easier time.

ABOARD U. S. S. GLACIER, in the Pacific, Nov. 29—Taking advantage of a lull between gales, this Navy icebreaker rushed food and water today to twenty-five men living on short rations aboard her tow. The crew was down to its last nine meals when the supplies arrived.

With winds of fifty miles an hour falling off to about fifteen and with waves thirty feet high dropping to about five, the Glacier sent 900 pounds of food and 3,200 gallons of water to the tow—a small gasoline-filled tanker being pulled to the Antarctic. The food was sent over a high line rigged between the two ships, the water through a hose.

Until the fresh provisions arrived the men aboard the tow—it is known as the Yog 34—had been living for thirty-six hours on less than full rations. They had only enough food left for three days, according to Comdr. Eugene H. Maher of Ogden, Utah, this ship's captain. They were down to their last 150 gallons of water and were conserving every drop. Showers had been eliminated.

The tow wound up in that tight situation as a result of a powerful gale that struck both these vessels on Sunday, the day that had been originally selected to resupply the tanker. But the strong winds and the towering waves—they had the Glacier's clinometer registering rolls of up to thirty-seven degrees—ruled out any chance of a transfer of supplies.

Once the gale pitched a gust of seventy-five miles an hour at the ships. Altogether, the gale was rough enough to prevent the Glacier from advancing more than ninety-five miles during the day. Earlier in the trip she had been making 360 miles a day.

Life was being lived at an angle aboard both ships until the gale let up during the night. The resupply operation took place the first thing this morning. The Yog had last been supplied in a similar mid-ocean operation Nov. 19.

ABOARD U. S. S. GLACIER, in the South Pacific, Nov. 30—For the fourth straight day, this Navy icebreaker was being buffeted by gales. The Antarctic bound Glacier — 8,600 tons in weight and 310 feet long — took one roll of 45 degrees during the night.

The Glacier's tow, the tanker YOG 34, carrying more than 200,000 gallons of gasoline at the end of a 1,700 foot towline, pitched incessantly and, at times, waves washed over her twenty-five-foot high bridge. There are 337 men aboard the Glacier and twenty-five aboard the tow.

U. S. Polar Ship Hoists Antenna With Balloon

ABOARD U. S. S. GLACIER, in the Pacific, Nov. 21—A balloon-supported antenna of 500 feet was launched today. It is designed to overcome the notoriously bad communication conditions in the Antarctic.

Use of this "sky-hook" vertical antenna — it can be extended to 1,200 feet or almost the height of the Empire State Building—is expected to provide a reliable communication range of 1,500 miles regardless of the atmospheric disturbances that often blanket the South Polar area.

To the communications crew aboard the Glacier the balloon-elevated antenna system is a major advancement in the effort to improve long-range communications from the Antarctic and the Arctic.

"This relatively new equipment may write finis to the radio blackouts experienced by ships operating in latitudes famous for electromagnetic storms, auroras and other interferences," according to Lieut. Rocco V. Milano, this ship's communication officer.

120 SEABEES SING ANTARCTIC PRAISE

They Volunteered for Trip So as to Explore, to Save Money and Have Solitude

ABOARD U. S. S. GLACIER, in the Pacific, Nov. 25—For 120 Seabees Antarctica is expected to fulfill their desire to get in a little exploring before the world runs out of explorable areas.

That, in essence, was the reason most frequently advanced today by a representative group of Seabees when asked why they volunteered for the rugged eighteen-month assignment.

"Everest has been climbed," as one Seabee put it, "so what's left but old, cold Antarctica?"

In old, cold Antarctica these 120 Seabees, chosen from 10,000 volunteers, will have the job of building four bases, including one at the South Pole. The others will be at McMurdo Sound, Little America and Marie Byrd Land.

These Seabees received their cold-weather training at Davisville, R. I. They are now heading south aboard this icebreaker and five other ships attached to Operation Deepfreeze.

When these vessels sail from the Antarctic in late February to avoid being frozen in, the Seabees will be left on their own until the next south polar summer season. The second section of Operation Deepfreeze will arrive at that time.

Besides saying they wanted to explore the Antarctic, the Seabees gave many other reasons to explain their eagerness to visit what has often been labeled "silent continent", "the white continent" and "penguin land." Some of the reasons given follow:

"It will help my Navy career."

"It's a chance to get a little solitude."

"The Antarctic is a famous place to save money."

"I've always liked cold weather."

"Volunteering for the Antarctic was the only way I could get out of my last assignment."

According to Comdr. Herbert W. Whitney of Arlington, Mass., commanding officer of the Seabee mobile construction battalion, the average age of his men is about 28 years. More than half of them are married, he said, adding that about 60 per cent have already served at least one four-year hitch in the Seabees.

Of the criteria used to select one Seabee out of every ninety or so who volunteered, Commander Whitney said that perhaps the most important was versatility.

"We chose men with more than one trade: cooks who could operate radios, drivers who could repair trucks, electricians who knew about carpentry," he explained.

"We also trained men in different fields. In other words, we may have only 120 Seabees wintering over, but they possess the specialties of 300 or 400 Seabees.

To carry out their construction job, the Seabees, who will have air support, are taking along 19,000 tons of cargo. But they are also taking along a few tons of equipment designed to make the huts they will live in the next best thing to home.

For example, they have 4,000 books, 200 leather and woodwork hobby sets, as well as ram radio sets by which they hope to talk to their families at home.

In fact, as an indication of how wintering-over conditions have eased off since a group of ten men first did it in 1899, the Seabees are even taking along record players.

Indians, Eskimos Get U. S. Aid

WASHINGTON, Dec. 22 (UP) —President Eisenhower today allotted an additional $20,000 to relieve economic distress in nearly a dozen Indian and Eskimo fishing villages in Alaska. In November, 1954, the President allocated $20,000 for the same purpose when a number of Alaskan communities, which depend on commercial fishing, encountered extremely poor fishing conditions.

2 MORE NAVY SHIPS OFF TO ANTARCTIC

Expedition Hailed by Byrd as Start of 'Permanent' U.S. Occupation of Continent

NORFOLK, Va., Nov. 14—Two Navy attack-cargo ships put out to sea from Norfolk today and headed for the Antarctic.

The Arneb, flagship of the Navy's Task Force 43, composed of seven vessels, weighed anchor at 4 P. M. along with the Wyandot. Aboard the Arneb was the task force commander, Rear Admiral George Dufek. The five other ships already were on the way south.

In a farewell salute to the departing vessels today, Rear Admiral Richard E. Byrd said, "I believe the Antarctic will be occupied permanently from now on."

Calling the operation "the most significant event in the history of science," he declared that the work of the task force would signal the end to the isolation of the "lonely, silent Antarctic Continent."

Among those on hand to bid the task force godspeed was Dr. Larry M. Gould, chairman of the Antarctic committee of the National Academy of Sciences. He said Admiral Byrd's four previous treks into the Antarctic were "merely leading up to this great climax."

Icebreaker Edisto Sails On Antarctic Expedition

BOSTON, Oct. 30—The Navy icebreaker Edisto sailed today to join the United States expedition to the Antarctic.

The Edisto will be part of Task Force 43, commanded by Rear Admiral George J. Dufek. Rear Admiral Richard E. Byrd, veteran explorer of the Arctic and Antarctic, has overall command of the operation, called Deepfreeze.

WELLINGTON, New Zealand, Dec. 13 (Reuters)—The last of the ships of the United States task force to the Antarctic, the flagship Arneb, arrived at New Zealand today on its way south.

Main Party Leaves New Zealand

WELLINGTON, N. Z., Friday, Dec. 16 (Reuters)—The main task force of the United States expedition to the Antarctic made a sudden departure from Lyttelton today.

Rear Admiral George J. Dufek, the commander, said aboard the flagship Arneb he had taken a snap decision after receiving reports of favorable Antarctic ice conditions from the ice-breaker Glacier.

American crewmen on shore leave here were hurriedly recalled to Lyttelton.

U.S.S. Glacier in New Zealand; New Antarctic Duty Is Assigned

LYTTELTON, New Zealand, Dec. 6—Five days behind schedule, the antarctic-bound U. S. S. Glacier arrived here today after a voyage of almost four weeks. She left Panama Nov. 10 on the 7,500-mile journey across the Pacific.

No sooner had the icebreaker docked at this port of Christchurch than she learned that last week's fifty-mile-an-hour winds and thirty-foot waves had forced a change in her original assignment in Operation Deepfreeze.

The Glacier, vanguard of the seven-ship expedition, was notified that she would not proceed to her scheduled destination, the Little America region. Instead she will head for McMurdo Sound, about 350 miles to the west, to begin marking off a vital airstrip on the ice.

That job was originally assigned to the icebreaker Edisto, scheduled to arrive today with the Glacier. But the gales had slowed her down to the extent that she was not due before Thursday at the earliest.

The Edisto will arrive at McMurdo Sound two or three days later and finish the job started by the Glacier. That will free the latter to resume her original assignment to find a site for a major base in the Little America area.

Constructing the airstrip on the ice at McMurdo Sound is one of the key projects of Operation Deepfreeze, and the expedition planners do not want to lose any time in getting it started.

The strip will serve as the terminal point for a nonstop 2,200-mile flight of seven or eight large Navy planes from Harewood Field in Christchurch.

From the McMurdo strip planes will make exploratory and mapping flights into the continent's interior and will airlift supplies to the projected scientific observatory.

To the 337 men aboard the Glacier it did not make much difference whether their first stop was McMurdo Sound of the Little America region. What was important to them was that at last they were in port.

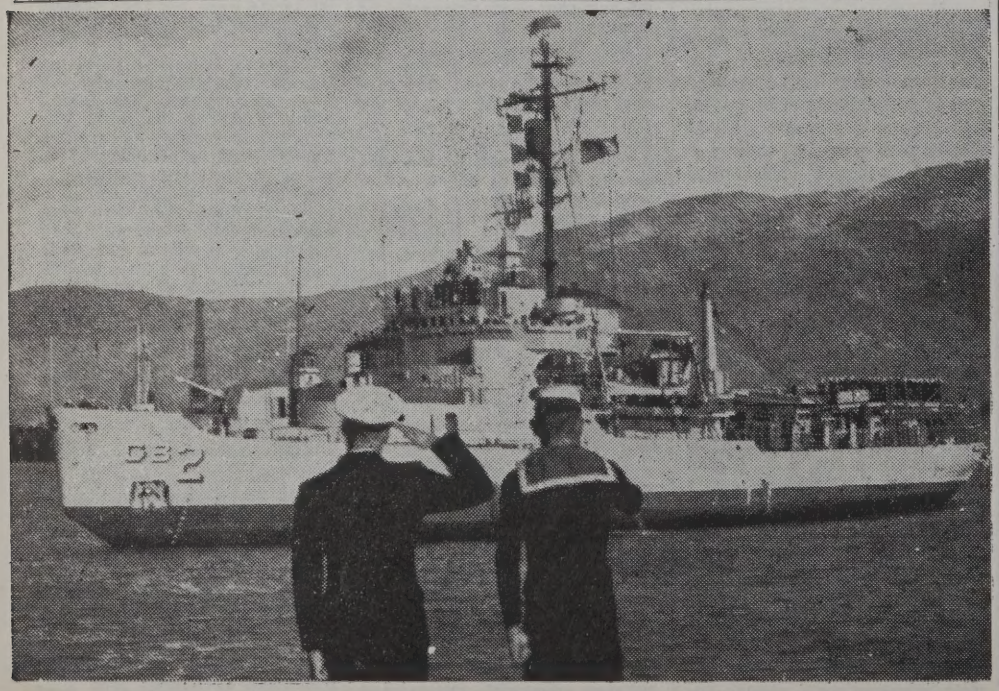
On hand to greet the Glacier was Capt. Gerald L. Ketchum of Bellingham, Wash., deputy commander of Task Force 43, the naval arm of Operation Deepfreeze. It was Captain Ketchum who brought the news of the change in plans to the ship's captain, Comdr. Eugene H. Maher of Ogden, Utah.

LYTTELTON, N. Z., Dec. 8—New Zealanders by the hundreds have been turning out to give the U. S. S. Glacier anything but an Antarctic reception.

Here to take on last-minute supplies before sailing tomorrow for the South Polar area, the Navy icebreaker has been a hit since her arrival here from Panama on Tuesday.

Men, women and children have lined up hours in advance for a chance to visit the ship.

Aboard, each New Zealander has received a souvenir pamphlet telling all about the 310-foot ship, her crew and their part in Operation Deepfreeze.



The second icebreaker to arrive at Lyttelton, Edisto, salutes as she passes H.M.N.Z.S. Tasman.

EXPLORER'SDIARYSPEAKS

Relates Founder of Churchill Labeled It 'Misserable'

CHURCHILL, Man. (Canadian Press)—Capt. James Knight, an English adventurer who founded the Port of Churchill in 1717, wrote in his diary:

"I never see such a misserable place in all my life."

There are those today who agree with him. They curse the hordes of black flies and mosquitoes that follow their every move during the summer. They swear as they plow through deep snow and face the killing winds and cold of winter.

But then there are those who do not mind the place. Some 850 persons manage to survive in the Hudson Bay town, 610 air miles north of Winnipeg. And there're many more knocking on the town's doorstep for admittance.

The Glacier Sails for Antarctica From New Zealand Under Byrd

ABOARD, U. S. S. GLACIER, Saturday, Dec. 10—The Glacier sailed today for Antarctica from Lyttelton, N. Z., in the United States' greatest effort to learn the secrets of that continent's 6,000,000 square miles of ice and rock.

Within the next few days, six other ships of Task Force 43, carrying about 2,000 men and 20,000 tons of equipment, will follow the Navy icebreaker to the south polar area in Operation Deepfreeze. The four-year program of scientific and exploratory operations is expected to lift much of the obscurity from a region almost twice the size of the United States with a native population of zero.

Aboard is Rear Admiral Richard E. Byrd, in charge of the United States Antarctic programs. This is his fifth trip to the South Pole area since he first explored it in 1928-30.

The dock was jammed with New Zealanders waving a bon voyage. They brought presents of candy and books to the sailors, and they also brought along a couple of bands—one that played jazz music and a bagpipe group that played Scottish tunes. As the Glacier pulled out the sailors tossed dozens of their white hats over the side as a sort of token of appreciation for the good time that both Port Lyttelton and near-by Christchurch had shown them.

"I've been to many places around the world," said one sailor, "but I've never been to a place where the people went so far out of their way to make sure that our liberty was fun."

ABOARD U. S. S. GLACIER, at Sea, Dec. 12—Despite pounding by wind and wave, this Navy icebreaker was moving south today in an attempt to reach and pass through the Antarctic pack ice earlier in the season than almost all expedition ships of the past.

The extensive scope of the operation has made it imperative for the Glacier to do what only a handful of ships have accomplished—pass through the unpredictable pack ice this early in the Antarctic summer. The Antarctic summer coincides with the northern winter, with December the equivalent of June.

Almost invariably ships wait until much later in the month, and even until January, after the warmer winds and seas have had an opportunity to loosen the pack ice, before trying to cross through it. Sometimes the pack, which in past years, has varied from nil to 800 miles in width, has trapped vessels for more than a month when they attempted passage too early in the season.

The pack ice is a typical product of Antarctic weather. It consists of frozen sections of the sea broken up and blown north by the early summer winds. It also includes chunks of frozen bay ice that have gone out to sea, as well as giant icebergs that have broken off the continental icecap. As the summer progresses, wind, current and sun break up the pack. By February there are some places where it has completely disappeared.

Just what the dimensions of the 1955 pack are remains to be seen. Whatever the size, one thing is certain: never has a ship so powerful as the Glacier attacked it.

The Glacier, the Navy's newest icebreaker, has ten Diesel-electric engines, a power plant capable of 21,000 horsepower. She is 310 feet long and, when fully loaded, displaces 8,600 tons.

A tank system can rock the ship five degrees from side to side by shifting a ballast of 69,000 gallons of water. This artificial roll is designed to allow the Glacier to wiggle out of ice that may suddenly freeze up around her. Altogether her tonnage and her power make her capable of riding up and splitting ice fifteen feet thick.

She also carries two helicopters, which can take off from the flight deck and carry out reconnaissance missions in search of leads through the ice.

ABOARD U. S. S. GLACIER, at Sea, Dec. 15—Against a backdrop of icebergs, this Navy icebreaker crossed the Antarctic Circle today exactly on the International Date Line.

The Circle, at Lat. 66:33 S. was first crossed so far as is known on Jan. 17, 1773, by Capt. James Cook of Britain.

It was no coincidence that the Glacier crossed precisely at Long. 180. She went several degrees off course to do so. Once the bisecting lines were in the Glacier's wake, her loudspeaker system announced:

"For the information of all hands, we have just crossed the Antarctic Circle and the International Date Line, better known as Newcomb's corner."

Lieut. Robert C. Newcomb of Arlington, Mass., is the ship's navigator. He has been calling the lattitude and longitude for the Glacier since her commission last May.

Proceeding south along the 180th Meridian—it was Wednesday on the port side and Thursday on the starboard side—the Glacier steamed to Scott Island in search of the pack ice guarding the approaches to Antarctica. She passed that rock late this afternoon and kept heading due south toward McMurdo Sound, 775 miles away. The pack ice was beginning to appear on the horizon.

A United States Navy helicopted of this expedition crashed into the bay at Lyttelton, N. Z., yesterday. both Navy men aboard escaped unharmed.

Word of the accident was received aboard the Glacier by Comdr. Gordon K. Ebbe of Patuxent River, Md., commanding Air Development Squadron 6, the air arm of Operation Deepfreeze.

The helicopter dash, a Sikorsky HO4S-3, off the Greenville Victory, one of the Deepfreeze cargo ships, had mechanical trouble in taking off from a pier. Flying the craft were Lieut Comdr. Glen H., Lathrop Jr. of Wilmington, Del., and Aviation Machinist Franklin T. Hoops of Patuxent River, Md.

The helicopter was salvaged but it can not be repaired. Its loss cut the strength of the squadron to fourteen aircraft—two Albatrosses, two Skymasters, two Neptunes, to Dakotas, four Otters and two helicopters. Two of the icebreakers of the task force, this ship and the Edisto, have two helicopters each, besides.

2 OF DISNEY STAFF TO FILM ANTARCTIC

Pictures of Initial Work of Navy Project Scheduled for Video in Spring

HOLLYWOOD, Calif., Nov 10—Filmed progress reports by Walt Disney's camera men with the Navy's forthcoming Antarctic expedition, Operation Deepfreeze, will be televised in the spring on the "Disneyland" and "Mickey Mouse Club" TV programs over the American Broadcasting Company network.

Lloyd Beebe and Elmo Jones, both expert cold-weather photographers, will accompany the Navy's Task Force 43 to film all phases of the initial construction period of the four-year research project. Operation Deepfreeze is part of this nation's activities during the International Geophysical Year. It is under the supervision of Rear Admiral Richard E. Byrd, U. S. N. retired.

The films, to be made by Mr. Beebe and Mr. Jones in cooperation with Navy moviemen, will start with the first landing on the ice shelf of the Ross Sea next month. They will be used also to make a feature-length theatrical motion picture. Photography will be in color in the CinemaScope process.

The two photographers will begin making their film record as soon as they are landed from the naval flotilla under the command of Rear Admiral George Dufek. The initial films will come out of the Antarctic with the first mail deliveries.

Admiral Dufek's ships will leave the polar waters in February. For the next seventeen months, Mr. Disney's camera men will be busy recording the activities of the group that will lay the foundation for the scientific projects to follow.

Mr. Beebe and Mr. Jones also will photograph the efforts of a special reconnaissance party to lay out a 800-mile trail from Little America to a station in Mary Byrd Land for later use by tractor trains.

The Glacier Reaches Antarctica; Cuts Through 440-Mile Ice Pack

ABOARD U. S. S. GLACIER, in the Ross Sea, Dec. 17—This Navy icebreaker reached Antarctica tonight. She sailed fifty-four days ago from Boston, 12,500 miles away.

The midnight sun was shining brightly as the Glacier, lead ship of Operation Deepfreeze, entered the waters off McMurdo Sound, on the Ross Sea coastline of the world's least-known continent. The ship had chopped her way through 440 miles of pack ice to reach the McMurdo area, about 800 miles from the South Pole.

The white panorama off the Glacier's bow was spectacular. The sun was dazzlingly reflected by the icy skyline of the landmarks of the southwestern corner of Ross Sea: Mount Erebus, a 13,200-foot active volcano; Ross Island, from which Capt. Robert Scott of Britain began his trek to the pole in 1911, and the Ross Shelf Ice, which is about the size of California.

The last visit to McMurdo Sound was made in early 1948 by a Navy officer who is aboard this ship. He is Capt. Gerald L. Ketchum, deputy commander of Task Force 43. Eight years ago he led a two-ship exploratory expedition into the area.

AIRSTRIP MARKED ON ANTARCTIC ICE

Expedition Ship Stakes Out Runway for Nonstop Flight From New Zealand

ABOARD U. S. S. GLACIER, off Antarctica, Dec. 18—An ice runway was marked off with scarlet flags today on the frozen waters of McMurdo Sound in Antarctica. It is about 800 miles from the South Pole.

The runway, essential for carrying out the far-flung projects of Operation Deepfreeze, was found just a few hours after this icebreaker reached the icy shores of the world's least familiar continent.

Situated four miles off Cape Armitage, the world's most isolated airport is not far from Hut Point, where Capt. Robert F. Scott built a wooden hut during his 1901-04 expedition. After half a century of blizzards the hut still stands, a testimonial to one of the Antarctic's greatest explorers. The temperature at the runway today was about zero, coupled with thirty-mile-an-hour winds.

The runway, which is thirty-five miles south of this ship, is almost 9,000 feet long and 300 feet wide. A chain saw driven into the ice went down seven feet without striking water, which means the ice is more than strong enough to support two heavy Skymasters that are scheduled to be flown in from New Zealand during the next week. The Skymasters, four-motor aircraft with a gross weight of 72,000 pounds, are two of the eight Navy planes that will make a nonstop flight of 2,500 miles.

"It is a beauty of an ice runway," said Comdr. Gordon K. Ebbe, commanding officer of VX-6, the air squadron of the task force, after he returned from finding the runway. "There is enough flat ice there for a 50,000-foot runway. Actually we had first tested five other spots but there was too much snow on them. This one has an average of three inches, which is what we want for braking action. It stops skidding, too."

Commander Ebbe went shopping for his airport in a Sikorsky helicopter piloted by Lieut. Comdr. William E. Shockley of Lakehurst, N. J., and Lieut. (j. g.) Leroy L. Barton of Oklahoma City. Accompanying them was Comdr. Herbert H. Whitney of Arlington, Mass., who will be in charge of 120 Seabees who will winter next year at two sites, one at McMurdo Sound, the other in the Little America area.

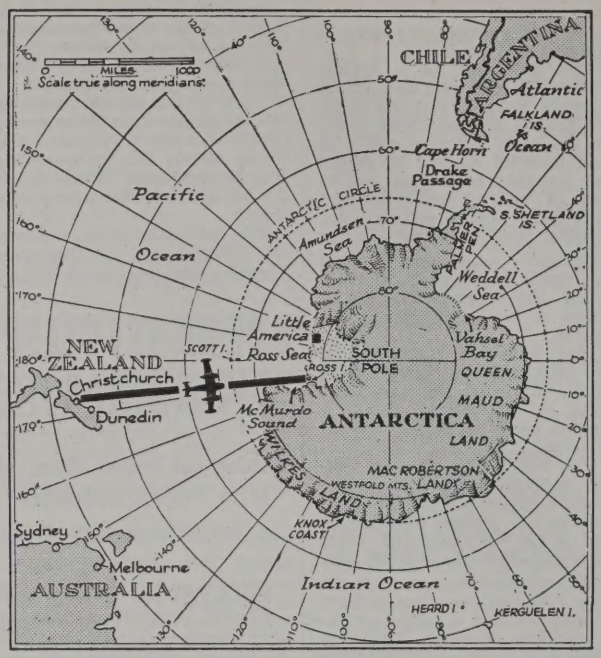
The Glacier reached her present position just off Ross Island, after cutting through 440 miles of the Antarctic pack ice. The ship ran into this unpredictable belt at about 6 P. M. Thursday just south of Scott Island and broke out of it thirty-seven hours later at 7 A. M. yesterday. She had entered it at Long. 179 degrees 55 minutes W. Lat. 67 degrees 26 minutes S., and left it at Long. 176 degrees 40 minutes E. Lat. 73 degrees 45 minutes S.

Compared to some years the pack was not particularly consolidated. The official diagnosis of the pack, radioed to other task force vessels, was: "Consists of large floes of light to moderate pack with large leads between floes."

At first the pack was loosely knit with plenty of veins of water. The Glacier brushed this ice away without any nonsense. About midway through, the pack contained fewer and fewer leads and the round-bottomed Glacier often had to ride up on an enormous piece of ice until her 8,600 tons broke it.

The only ones around to witness the battle of the Glacier versus the Antarctic pack were 345 men aboard the ship and a few Adelie penguins and crabeater and Weddell seals floating by on the ice. The penguins seemed to stare at the ship in astonishment, then would toboggan on their white bellies into the icy water. The seals, by contrast, seemed to be bored with the proceedings. They would raise their whiskered faces at the Glacier, take a quick look and then go back to sleep. It was almost as though they were wondering what anyone in his right mind was doing in this frozen lonely part of world.

4 U. S. Planes Reach Antarctica, First to Fly In From the Outside



The line of the pioneering American flight to Antarctica

By The Associated Press.

AUCKLAND, N. Z., Dec. 20—Four United States planes flew from New Zealand to Antarctica today. It was the first time that planes had landed on the frozen continent from another land mass.

Mount Erebus, an active volcano towering 13,000 feet above the icy continent's landing strip, provided a guiding beacon on the last stages of the 2,400-mile nonstop flight from New Zealand's South Island.

Four other planes, all part of a United States expedition headed by Rear Admiral Richard E. Byrd, were forced back by strong headwinds. The four landed safely near Dunedin in New Zealand.

[In 1929 Admiral Byrd made the first flight over the South Pole, his plane having taken off on skis from Little America. Land planes based in Argentina have flown over Antartica and Argentine sea planes have landed near offshore islands. In 1947 six Navy planes from an aircraft carrier landed at Little America. Thus Tuesday's flight is the first to link the Antarctic mainland directly with other land areas.]

Two Neptunes and two Skymasters arrived on McMurdo Sound, a channel between Ross Island and Victoria Land on the Antarctic continent.

The area is on the west side of the Ross Sea, on the opposite shore from the ice shelf on which Admiral Byrd's Little America camp formerly was established.

All eight planes took off today after Rear Admiral George J. Dufek, leader of an advance party that prepared the landing strip, reported weather prospects excellent at that end.

Because there are no landing points between New Zealand and the Ross Sea, seven Navy ships were spaced a few hundred miles apart along the flight route to assist the planes if need be.

The joint sea-air operation was a phase of the preparation for the United States part in the international scientific exploration and observation to be made in the Antarctic during the 1957-58 International Geophysical Year.

Biggest Whaling Ship Ready

IJMUIDEN, the Netherlands, July 10 (AP)—The world's biggest whaling factory ship, the 40,000-ton Willem Bardendsz, was handed over by its Dutch builders this week-end to the Dutch Whaling Company. It has a speed of fourteen knots and can be used in ordinary oil tanker service.

City's Streets Colder Than Antarctic Shore

McMURDO SOUND, Antarctica, Dec. 21—It was warmer today on the shores of Antarctica than on the streets of New York.

Last night when the first of four United States Navy planes landed on the frozen waters of McMurdo Sound the temperature here was 15 degrees. The local time was 7:05 P. M.

About the same time in New York (11 A. M., E. S. T.) the thermometer reading was also 15. By 7 P. M., E. S. T., the New York temperature had dropped to 10 degrees, five degrees lower than at the comparable hour in the Antarctic.

Today's low temperature aboard the U. S. S. Edisto, one of the ships of the United States Antarctic expedition, was 21 degrees. In New York the low was 5.9 degrees at 3:50 A. M., E. S. T.

AIR TIE ADVANCES ANTARCTIC TASKS

Flight of Four U. S. Planes From New Zealand Lessens Remoteness of Region

IN McMURDO SOUND, Antarctica, Dec. 21—The four United States Navy planes that arrived here last night have made this barren Antarctic continent just a little less remote from civilization.

With the midnight sun shining brilliantly, the planes—two two-engined Neptunes and two four-engined Skymasters—came down on the frozen waters of McMurdo Sound and completed a historic non-stop flight from New Zealand, about 2,400 miles.

Their flight, over perhaps the roughest seas in the world, was supported by six ships of Task Force 43, strung across the South Pacific and the Ross Sea at intervals of a few hundred miles.

Only a dozen or so men were at the bleak ice runway here, about 800 miles from the South Pole, to greet the twenty-five fliers who made the first flight to link the earth's least accessible continent with another land mass.

"Routine, that's all it was," said the Navy pilots and crewmen as they stepped onto the runway marked off by scarlet flags.

However, they had been plagued by headwinds of about thirty miles an hour. They ran into these winds shortly after the take-off from Harewood Field, Christchurch, N. Z., and they had to fight the wind almost every mile to McMurdo Sound. The result was that the flight took about fourteen hours instead of the scheduled twelve. One of the Neptunes came in with less than two hours' fuel in its tanks, according to the pilot.

For four other Navy planes that began the trip, the headwinds proved to be unconquerable. Those planes, two two-engine Dakotas and two two-engine Albatrosses, took off from Taieri Air Field, Dunedin, and had been in air for seven hours, covering about 900 miles, when they were ordered to go back. The planes had a range of about 2,800 miles; and they had consumed so much gas battling the winds that it would have been too risky for them to continue. It was said tonight that they would not fly to Antarctic this season.

The lack of the four planes will almost certainly affect the scope of some of the 1955-56 projects of Operation Deepfreeze, this United States contribution to the Antarctic phase of the earth research of the International Geophysical year 1957-58. The C-47 Dakotas were scheduled to fly men and cargo to far-flung United States stations that will be set up in the next few months. The Albatrosses, which are triphibian planes, would have been assigned mostly to air rescue work and coastal reconnaissance.

The successful flight added a chapter to the story of aviation in the Antarctic, where some of the worst flying conditions in the world prevail almost every day. The story began with Capt. Robert F. Scott of Britain, who ascended in a balloon along the Ross Shelf Ice during his 1901-04 expedition. Sir Hubert Wilkins of Britain flew the first plane over the Palmer Peninsula, below South America, in 1928.

On Nov. 29-30, 1929, Rear Admiral Richard E. Byrd, now officer in charge of the United States Antarctic programs, flew over the South Pole. Admiral Byrd is aboard the U. S. S. Glacier, one of the ships participating in this expedition.

The first flight across the Antarctic continent was made in 1935 by Lincoln Ellsworth. In Operation Highjump, 1946-47, six Dakotas from the United States aircraft carrier Philippine Sea flew about 700 miles to Little America.

[The flights by Sir Hubert Wilkins, Admiral Byrd and Mr. Ellsworth were in planes transported to the Antarctic by ship. Seaplanes from Argentina have landed at offshore Antarctic islands.]

It is an unusual airport at which the planes landed here—no buildings, no beacons, not even a sock to indicate the wind direction. Efforts had been made by a weasel, one of the expedition's tracked vehicles, to transport ground-control approach equipment to the runway, but a bad crack in the McMurdo Sound ice prevented it.

The Navy fliers after arrival went temporarily to the icebreaker Edisto, one of the expedition's larger ships.

When the Edisto sails tomorrow to meet other ships of the task force off Scott Island, the fliers will move to the community of tents thrown up in the last twenty-four hours at Hut Point, a few miles from the runway. The tents are near the wooden hut in which Captain Scott and members of his Discovery party wintered during the 1901-04 expedition.

To this reporter, who flew over the runway today, the flags and poles lining both sides of the strip looked like two rows of birthday candles stuck in a white cake as big as Manhattan. The field, near Cape Armitage, is at Long. 166 degrees 23 minutes E., Lat 77 degrees 46 minutes.

SOUVENIRS MADE ANTARCTIC ISSUE

Hands-Off Order to U.S. Unit at Scott Hut Site Follows New Zealander's Plaint

ABOARD U. S. S. EDISTO, in the Ross Sea, Dec. 22—A representative of New Zealand has expressed his deep concern over the possibility of "indiscriminate souvenir hunting" at the huts of Capt. Robert F. Scott and Sir Ernest H. Shackleton. The huts, about twenty miles apart, are on Ross Island.

The note of anxiety was sounded by Trevor Hatherton of Wellington, one of three New Zealand observers with Operation Deepfreeze. A few Navy helicopter pilots from this ship and the larger icebreaker Glacier had visited the half-century old huts, said private memorial prayers and flown back with several articles in remembrance of their heroes of Antarctic exploration.

The Glacier was off Ross Island, outside McMurdo Sound on the west side of the Ross Sea, Dec. 17-21. The Edisto was there Dec. 20-21. Both icebreakers are now en route to Scott Island, near the Antarctic Circle, where they will rendezvous with the other ships of Task Force 43, the naval arm of the United States South Polar program in the multi-nations earth researches of the International Geophysical Year, 1957-58.

In a message to the British Commonwealth Trans-Antarctic Expedition headquarters in Wellington and transmitted by this ship's radio, Mr. Hatherton, who will be a member of the New Zealand expedition to McMurdo Sound area next year, said:

"Concern felt personally indiscriminate souvenir hunting results deterioration historic Scott-Shackleton huts."

Orders have now been issued not to damage the huts and their sparse furnishings. The orders stipulate that the huts and everything in them must remain inviolate. The orders were issued by Capt. Gerald L. Ketchum of Bellingham, Wash., deputy to Rear Admiral George J. Dufek, the task force commander. [The entire operation is under Rear Admiral Richard E. Byrd.]

A small community of tents has been set up in the rocky front yard of Scott's hut to house twenty-five Navy fliers who landed on frozen McMurdo Sound Tuesday night after a 2,550-mile non-stop flight from New Zealand. All these men are familiar with Captain Ketchum's order.

They will live in tents until some task force ships return in about a week and start erecting a more substantial station.

The "souvenirs" consisted of a few scraps of wood found outside Scott's hut and a newspaper, some cartridges, a can of food and an unopened bottle of medicine found inside Shackleton's hut. The newspaper was The Weekly Press, Christchurch, N. Z., dated July 1, 1908, when Shackleton used the site.

One of the Navy men from this ship, John Campbell of Pawcatuck, Conn., member of a helicopter crew, said he nailed a small crucifix on the side of Scott's hut. He had been asked to do that by his daughter Donna, 8 years old, and some of her friends who attend St. Michael's Parochial School in Pawcatuck.

Scott built his hut at a small promontory fronting on McMurdo Sound as a base for his British expedition of 1901-04. This reporter flew to the site in a De Havilland Otter, a small plane that can land on little space, and found the hut almost completely buried under fifty years of snow and ice. It could not be entered. Two wooden crosses erected in memory of Scott and the four men who died with him near here on his return from the South Pole in January, 1912, are still standing on the near-by hills.

Shackleton built his hut at Cape Royds, a mass of rocks with steep cliffs, to serve as a base for the British expedition of 1907-09.

Shackleton died of a heart attack in 1922 at South Georgia Island, on his way to lead a new Antarctic expedition.

The huts are regarded as shrines to two of the greatest explorers who ever left footprints in Antarctica's 6,000,000 square miles of snow and ice.

Ships at Scott Island

ABOARD U. S. S. ARNEB, OFF SCOTT ISLAND, Dec. 22 (UP)—The ships of the United States Antarctic expedition assembled off Scott Island today for the push through the pack ice to the Ross Sea.

Admiral Byrd's icebreak Glacier has arrived. She and the Edisto will make a path through the ice for the cargo transports Greenville Victory, Arneb and Wyandot and the tanker Nespelen. Admiral Dufek, commanding the operation, planned to start south tomorrow. Visibility was improving.

The Glacier, Arneb and one other ship will go to Little America on the east of Ross Sea and the rest to McMurdo Sound. Both groups are expected to reach their destinations by Christmas.

Plastics for First Aid

LONDON (Canadian Press)—Included in the equipment for the British Antarctic Expedition are new plastic dressings—for treatment of wounds suffered by sled-dogs fighting.

SIX IN ANTARCTIC RESCUED OFF ICE

The Edisto of U.S. Navy Unit Finds and Saves Group Isolated by Blizzard

ABOARD U. S. S. EDISTO, in McMurdo Sound, Dec. 24—Six Navy men were dramatically rescued during an Antarctic blizzard this Christmas Eve after they had been trapped in two tents for fifteen hours by the storm. This icebreaker found and saved them.

The tents, about six feet by seven feet, were pitched on the ice of McMurdo Sound, about three quarters of a mile from open water.

Winds up to 100 miles an hour from the 10,000-foot-high South Polar plateau were breaking up the pack, and there was a possibility that the field of ice the men called home might itself have soon gone out to sea. These tents were about a mile off Mount Bird on Ross Island. The island and the McMurdo Sound area are a base region for Operation Deepfreeze, the Navy's Antarctic expedition in the United States role under the International Geophysical Year 1957-58, a multi-nation effort of earth research.

The six-men trail party—five Seabees and a Navy Air Arm radio operator— had reached a lonely position at 1 A. M. today after a twelve-hour tractor trip over the McMurdo Sound ice from the temporary base camp of tents at Hut Point. The Point is on the front yard of Capt. Robert F. Scott's hut of the 1901-04 expedition.

The six then had made a forty-mile journey to pick up cargo unloaded earlier this week by the Edisto, which had sailed from the area Wednesday after supporting the historic 2,550-mile flight of four Navy planes from New Zealand. The men had started in clear weather, but the Antarctic blizzard, one of the fiercest storms in the world, developed and marooned the men in their tents.

The Edisto reached the McMurdo waters about 2 P. M. Despite the snowy winds blending ice and sky, the officers on the bridge could still make out that some of the cargo was still on the ice.

"Two men over the bow are going to see if any men are located at the equipment," the log entry said.

The two were Lieut. (j. g.) Richard Stamm, 27, of Lewistown, Mont., and Seaman Donald Thomas, 18, of Cincinnati, Ohio.

The five Seabees were: Robert E. Kenny, 32, of 4617 Fifth Ave., Brooklyn, N. Y., construction mechanic 1st class; Robert L. Chaudion, 26, of Long Beach, Miss., yeoman, 1st class; William K. Horner, 26, of Pittsburgh, Pa., aerographer 1st class; Clarence S. Lynch, 26, of Oxnard, Calif., construction electrician, 1st class, and Jerry L. Nolen, 21, Detroit, aerographer 2nd class. The airman was Jeremiah J. Riley, 28, of St. Louis, radio operator.

One after another the men climbed up the ship's ladder to warmth and a Christmas Eve dinner. The wind was so strong that it took twenty-six minutes for the men to climb aboard.

None of the rescued six who had withstood the Antarctic blasts had suffered from exposure or in fact had suffered in any way. They were given shots of brandy, took showers and joined the Edisto's crew in a roast veal dinner in the decorated mess hall.

In fact, the rescuers had found three men in one tent sound asleep in sleeping bags and three in the other tent preparing a hot meal.

"Honestly, we weren't worried at all," they said. "We were just waiting for the winds to die down so that we could continue the job. We had a million dollars worth of equipment out there, and you don't think a little wind would stop us."

"We had plenty of provisions and we weren't concerned at all," said Mr. Chaudion. "We took along a life raft we borrowed from one of the planes, just in case, the ice might go out. But we had no sense of fear. We joked about our predicament. 'What a way to spend Christmas eve'."

"Also we said we will certainly have a white Christmas. We planned to sing 'Jingle Bells' and carols tonight if the storm didn't let up."

U. S. Seamen of Antarctic Party Enjoy Christmas on Polar Ice

ABOARD U. S. S. EDISTO, in McMurdo Sound, Dec. 25—To the delight of United States Navy men and a dozen or two penguins, Santa Claus got badly mixed up on his poles this Christmas Day.

Apparently he had had trouble telling north from south. Anyway, shortly after midnight, Santa, being drawn across the Antarctic ice by four reindeer that looked suspiciously like sailors, turned up off the bow of this icebreaker 800 miles from the South Pole. The ship, with 295 men aboard, is moored to the frozen waters of McMurdo Sound off Ross Island.

Santa, dressed in regulation garb and picking his way among the neighborhood penguins, was in fine fettle. His carryings on, against a backdrop of 6,000,000 square miles of snow and ice of the world's most Christmas-looking continent, made for a delightfully happy holiday.

At one point in the festivities a crank who did not believe in Santa Clauses tore Santa's cotton beard off his face. He found another beard underneath—a real black one belonging to Lieut Cmdr. Charles A. Costanza of Lakehurst, N. J., who heads the Edisto's squadron of two helicopters. Commander Costanza has had plenty of experience playing Santa for his children, Carol Ann and Charles, Jr. There are twenty-six men from New York State aboard the Edisto, nineteen of them from the New York area.

After a few hour's sleep the crew attended religious services and then sat down to a magnificent Christmas dinner. The appetizing menu ran the gamut from shrimp cocktail through turkey to pumpkin pie with whipped cream. The dinner was served in the mess hall and ward room that had been decorated with artificial Christmas trees, tinsel, a string of light bulbs and even Christmas wreaths in the portholes.

The only thing that concerned the crew members was that they had not yet been able to mail letters home telling their families that the ship had just received orders changing her home port from Boston to Seattle. The men said the ship, commissioned in 1947, had been stationed in Boston between assignments, and the switch to Seattle would mean uprooting their families from New England.

The good time enjoyed by all those aboard the Edisto was pretty much representative of the holiday aboard the six other ships of Task Force 43. These ships—the Glacier, the Nespelen, the Arneb, the Wyandot, the Greenville Victory and the Eastwind—were cutting their way out of the Antarctic pack ice and heading for the continent. All the ships are part of the naval arm of Operation Deepfreeze, the United States' contribution to the International Geophysical Year, 1957-58.

Admirals' Christmas Greeting

WASHINGTON, Dec. 25 (AP)—Rear Admirals Richard E. Byrd and George J. Dufek broadcast Christmas greetings today to the 1,800 men who are with them on Operation Deepfreeze.

Admiral Byrd is in charge of United States Arctic-Antarctic programs. Admiral Dufek commands Task Force 43, the Navy's force of seven ships and one special air squadron in the current operation.

The greeting message went out from the U. S. S. Glacier, icebreaker flagship of Task Force 43, in the Antarctic, where the admirals are, and was relayed here through the Navy.

U. S. Ships Go Through Pack

WASHINGTON, Dec. 26 (AP)—Navy dispatches from the fleet plowing southward toward the Antarctic continent reported today that the ships got a Christmas present in the form of an exceptionally speedy passage through the ice pack.

Led by the icebreaker Glacier, the vessels all cleared the ice at 3 A. M. Antarctic Time, Christmas Day. The Glacier, temporary flagship of the "Deepfreeze" fleet, has Rear Adm. George Dufek and Rear Adm. Richard E. Byrd aboard.

U. S. Scientist Aides Named

WASHINGTON, Dec. 21 — Three high ranking scientists were named today to major posts in the United States program for the International Geophysical year 1957-58.

Dr. Edward O. Hulbert, retiring director of research at the Naval Research Laboratory in Washington, has been appointed senior scientist for the United States National Committee for the International Geophysical Year.

Dr. Harry Wexler, director of meteorological research at the United States Weather Bureau, was named chief scientist for the United States participation in Antarctic activities.

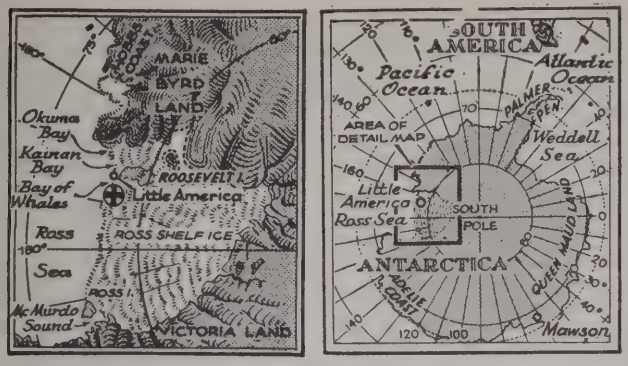
Albert P. Cary, a veteran Arctic geophysicist, will be this country's chief scientist in Antarctic glaciology and will also serve as deputy chief scientist of the over-all United States Antarctic program.

Two Injured in Air Crash

ABOARD U. S. S. EDISTO, in McMurdo Sound, Dec. 26—Two seriously injured Navy men, survivors of Operation Deepfreeze's first air crash in the Antarctic, were flown to this icebreaker early today after having spent seventy-two hours in a tent battered by frequent gale-force winds. Four other men suffered minor bruises in the crash and one escaped unharmed.

The two were injured when a single engine plane, a De Havilland Otter, crashed Thursday into the iced-over waters of McMurdo Sound

As released by this ship, the names of the two injured men brought aboard were: Comdr. George R. Oliver, 48 years old, of Patuxent River, Md., member of the expedition's air arm, who suffered fractures of the left knee and left ankle, and Joshua P. McCuistion, 24, of Forsyth, Mont., a Seabee driver, who has an injured back with probable fracture.



ANTARCTIC HOMECOMING: Admiral Byrd landed at Little America (cross), the base for his earlier expeditions.

Byrd, 'Mayor' of Little America, Returns to His Antarctic Domain

LITTLE AMERICA, Antarctica, Dec. 28—Admiral Richard E. Byrd returned early today to Little America.

Admiral Byrd, officer in charge of the United States Antarctic program, flew by helicopter from the U.S.S. Glacier to the area on the Ross Shelf Ice he visited during four of his previous expeditions, in 1928-30, 1933-35, 1939-41 and 1946-47.

"I am Mayor of this place," he said as he jumped from the orange helicopter on to a section of Antarctica he has been fond of calling his second home.

On hand to greet Admiral Byrd, who in his deerskin flying suit did not look anything like his 67 years, were half a dozen Antarctic hands who had roughed blizzards and minus-seventy-degree temperatures with him on the four other expeditions.

The Glacier, lead icebreaker of the current Operation Deepfreeze, had reached the area earlier. The Navy's newest and most powerful icebreaker, the Glacier advanced into a partly iced-over Bay of Whales vastly different from the one Admiral Byrd last saw in 1947.

Carrying Rear Admiral George J. Dufek, task force commander of Operation Deepfreeze, the icebreaker spent the day reconnoitering Ross Shelf Ice in search of a harbor and a site for a major United States station. This station will be one of possibly eight the country will set up to support its role in the Antarctic program of the International Geophysical Year.

By 6 o'clock tonight the Glacier had looked over the Bay of Whales, Kainan Bay and Okuma Bay.

Admiral Byrd received a typical Antarctic welcome. Icy winds of about forty miles an hour shot across the area, picking up loose snow and spraying it about. The temperature was 4 degrees below zero.

The midnight sun was shining brilliantly as Admiral Byrd, accompanied by Dr. Paul A. Siple of Arlington, Va., the only man who has been with the explorer on all his Antarctic expeditions, walked slowly from the helicopter to a freshly raised United States flag. Dr. Siple is director of scientific projects in this expedition.

"It is good to be back, it is beautiful, isn't it?" Admiral Byrd said.

The only camp remains in sight were the tops of six wooden poles from Little America II and two steel-frame radio towers from Little America I, jutting through the snow floor.

One tower jutted out eight feet seven inches high. It was seventy feet high when originally erected in 1929. This tower was one of three set up to hold the antennas of the Adolph S. Ochs Radio Station. It was named for the late publisher of The New York Times, who helped sponsor Admiral Byrd's 1928-30 expedition.

After fifteen minutes, Admiral Byrd left in the helicopter and flew over Little America III and IV. His Little Americas are numbered to correspond with his four expeditions. He later said on the Glacier that he had seen some radio poles of Camp III and thought he had seen the peak of his tent of Camp IV. What particularly pleased him, he said, was that the Bay of Whales was still there. The U. S. S. Atka had found on an expedition earlier this year that pieces of the shelf ice forming the harbor of the bay had snapped off and gone to sea as an iceberg. That break had taken along a piece of Camp IV.

Site for Little America V Picked; Icebreaker Slices Out a Harbor

KAINAN BAY, Antarctica, Dec. 29—The Kainan Bay area was chosen today to be the site of Little America V, the major station in support of the current United States Antarctic program.

The site, about 800 miles from the South Pole, will serve as home base for the next three years of scientific exploratory and mapping activities in the world's least known continent.

The selection means that Kainan Bay, which at this season measures 6,000 yards by 4,500 yards, all of it frozen solid, will be turned at once into a bustling ice port. The icebreaker Glacier spent all day slamming her 8,625 tons into the seven-foot-thick bay ice and whittled out a 1,000-square-yard harbor.

The cargo ships Arneb and Greenville Victory, both standing by in the open water of the Ross Sea, will soon sail into the brand new port and begin unloading 7,000 tons of material. The position of the Glacier tonight in the bay was Lat. 78:05 S., and Long. 162:34 W.

Kainan Bay, a U-shaped indention in the towering Ross Shelf Ice, was chosen over several other bays, including the Bay of Whales, that were studied during the last twenty-four hours by the ice scholars aboard the Glacier.

It was the Bay of Whales, about thirty miles to the west, that served as harbor for Little Americas I, II, III and IV, from 1928-30 to 1946-47 in the four previous Antarctic expeditions led by Admiral Byrd, who is aboard the Glacier.

The final decision on Kainan Bay was made by Rear Admiral George J. Dufek, commander of Task Force 43, the Navy arm in this Operation Deepfreeze.

The ships' cargo, representing everything required to build a small American village on the Shelf Ice, will be transported about six or seven miles to the site. The exact position of the site still is uncertain; a reconnaissance party is now studying the area carefully. This party of eight men is led by Dr. Paul Siple of Arlington, Va., director of scientific projects of the expedition and Admiral Byrd's companion on each of the five trips here.

Kainin Bay is framed by the walls of the Ross Shelf Ice seventy to 100 feet high. But the curve of the "U" is joined to the bay ice by a snow ramp, which means that the cargo can be taken right up to a camp on the Shelf without too much difficulty. Right now there is a thirty-foot wide crevasse in the Shelf between the landing place and the general site area, but a bridge will be constructed.

It was from the Bay of Whales that Capt. Roald Amundsen made the historic first trek to the South Pole, reaching it Dec. 17, 1911. Admiral Byrd flew first to the Pole, from the bay in November, 1929. But because the Bay of Whales had changed shape drastically some time between the Navy's Operation Highjump in 1946-47, when it was last used, and the Atka reconnaissance mission early in 1955, it was ruled out, being now not as good a harbor as Kainan.

Kainan was named after the Japanese ship Kainan Maru, which reached the area in the 1911-12 season in an expedition led by Lieut. Choku Shirase. His party landed here Jan. 16, 1912, in the first and hitherto only use of the bay as a gateway to the Ross Shelf. This shelf, which is the size of California, is formed by the flow of the Continental ice cap down from 10,000-foot mountains and out over the Ross Sea. Dents in its seaward edge form the bays.

The Kainan Bay site is about thirty miles closer to the projected Byrd Station in Marie Byrd Land, which will be one of the first to be established by this expedition. A trail party will leave soon to mark a 500-mile route, and survey the Byrd Station site.

Word was received during the day by the Glacier that the two other icebreakers of Task Force 43, the Edisto and the Eastwind, were hacking out the ice of McMurdo Sound 400 miles to the west. They are trying to reach Cape Royds on Ross Island, a few miles from the ice runway on which four big Navy planes landed Dec. 20 after a historic flight from New Zealand.

The Ross Island base will be at Hut Point, a few miles south of the runway. The tanker Nespelen and the cargo ship Wyandot are standing by there, waiting for an ice harbor to be prepared so they can unload cargo.

The stations at Kainan Bay and at Hut Point are two of up to eight that United States parties are to set up during the next two seasons to carry on the work of the International Geophysical Year. Ten other nations, including the Soviet Union, also will set up observatories to give Antarctica the most extensive scientific examination since it was discovered early in the nineteenth century.

LITTLE AMERICA V GREETS NEW YEAR

Men Have a Party and Write Home—Cargo Is Being Unloaded for Base

LITTLE AMERICA V, Dec. 31—This base probably was the United States' bleakest outpost at the turn of the year.

No one was occupying either of the two tents pitched forty-eight hours ago on the Ross Shelf Ice to designate the area where the United States will set up its major base in support of its role in the Antarctic program of the International Geophysical Year 1957-58. The skyline of the latest Little America was begun by Comdr. Frederick G. Dustin of Washington, who then returned to the icebreaker Glacier in Kainan Bay seven miles away. Tonight, cargo to turn the barren tent site into a five-acre community is being unloaded in Kainan Bay from the Glacier as well as from the Arneb and Greenville Victory.

The work in Kainan Bay, about 800 miles from the South Pole, was the only human activity in the area. About 800 men from those three vessels participating in Operation Deepfreeze were ushering in 1955 in a variety of ways. Some joined in a beer party on the thick bay ice, some spent the year's last few hours writing letters home, some took pictures through the hazy overcast of the clif-like edge of the Ross Shelf Ice.

At the site of the two tents of Little America V a large United States flag, pinned in the air by strong winds racing down from polar plateau, looked like a rectangle of wood painted red, white and blue. Otherwise, the surroundings consisted of 160,000 square miles of desolate snow-covered ice of the Ross Shelf Ice.

The shelf ice is created by the flow of the continental ice cap down the mountains and out into Ross Sea. The seaward edge of the shelf, extending about 400 miles north of these mountains, is a sort of palisade of ice, 400 miles long and averaging more than 100 feet high.

To this reporter, who flew over the site of Little America V, the two tents and flag looked like a triangle of dots on the face of the moon. The only other marks in the area were two long lines in the direction of Kainan Bay. These were cut into the snow by a weasel (a tracked vehicle) that had made the round-trip journey from the Glacier in the tent site and back.

Beyond that there was icy stillness. Yet it is here in Little America V, once it is constructed, that the United States will conduct scientific, exploratory and mapping programs during next three and a half years.

Four earlier Little Americas were about thirty miles to the west in the vicinity of the Bay of Whales. They were built by the four previous expeditions led by Rear Admiral Richard E. Byrd, who is in charge of the United States Antarctic programs.

About half of Little America IV broke off and went to sea in iceberg form during the last few years, a development that also took along almost one side of the Bay of Whales. That action destroyed the well-protected harbor at that bay and forced the current expedition to select the Kainan Bay area as the site for Little America V.

Admiral Byrd says that Little America, to him, extends fifty miles to the east, west and south of the Bay of Whales. The new site falls within those 500 square miles. Further, it had been announced even earlier that the site chosen on the Ross Shelf Ice as a major United States base would be known as Little America.

U. S. LAGS ON MAPS OF ANTARCTIC FIND

East German First to Depict Range of Peaks Discovered by Byrd's Expeditions

WASHINGTON, Nov. 19—An East German geographer has beaten United States explorers to mapping their own discoveries.

A map from Communist-dominated East Berlin, recently analyzed by Admiral Richard E. Byrd and his associates, indicates an extremely close interest in Antarctic affairs by Hans Peter Kosack, who is regarded here as a geographer of note.

Dr. Paul A. Siple, geographer and explorer associated with Admiral Byrd since his first Antarctic expedition in 1928, explained the significance of the map. It was published in March, 1954, by "Petermann's Geogr. Mitteilungen," which retains its high pre-war standing as a publisher of geographical material.

The second Byrd Expedition, 1934-35, discovered a mountain peak and named it Mount Sidley. In the third expedition, 1939-40, four neighboring peaks were discovered by Dr. Siple and the group was called the Executive Committee Range to honor members of the committee of the United States Antarctic Service.

In the fourth expedition, 1946-47, Dr. Siple sighted another peak, the highest in Antarctica at 17,000 to 19,000 feet, but will not claim it as his discovery until exact plotting enables him to determine whether it might have been sighted on a previous expedition.

Along with this highest peak, Dr. Siple sighted a long range stretching to the northeast. All of these mountains, which have been photographed, are at Lat. 77 degrees 30 minutes S., Long. 123 W.

The existence of the mountains was duly reported in various publications, but they were left off new maps because of the lack of exact locations and a shortage of funds. The highest peak, still unnamed, finally made its appearance last month on the Navy's newest map of the Antarctic, Hydrographic Office Chart 16429.

But the East German, rushing into print nearly two years ago, not only was first to depict the unnamed highest peak but also put in the great new range extending toward a bay in the Amundsen Sea.

While Herr Kosack used only the best available data of the Americans and thus cannot claim precision, his action, as the United States explorers view it, has the virtue of reporting new knowledge.

Dr. Siple said the possibility to be feared when foreigners were first to publish was that they might choose their own names for United States discoveries. Herr Kosack did not take this advantage, but he did label not only the old group of peaks but the great new range as the Executive Committee Range.

There is some official concern that the Australians might do some naming of United States discoveries in an area where they have had a base for three years. Initially they obtained United States photographs of the area and from time to time have obtained more in exchange for geographic "fixes" on terrain features.

Antarctic Vegetable Garden

AUCKLAND, N. Z. (Canadian Press)—The New Zealand expedition to the Antarctic next year will take 200 pounds of soil with it, to grow mustard, cress and other quickly maturing vegetables. The expedition leader, Sir Edmund Hillary, said he wants to vary the diet of vitamin pills and lime juice with fresh vegetables. The soil will be boxed and heated inside the huts.

Boy Scout With Byrd, Now Antarctic Expert

WASHINGTON (UP)—Paul Siple, Boy Scout, accompanied Adm. Richard E. Byrd to the Antarctic 25 years ago.

Paul Siple, "director of scientific projects and environmental living for Navy expedition Deep Freeze," will return to the Antarctic next December.

During Siple's progression from Boy Scout to the mouth-filling title he now holds are 25 years of study on polar geography and climatology during which he spent three winters and seven summers in the Antarctic.

Siple was a 19-year-old Eagle Scout 25 years ago when he was chosen to accompany Byrd. Today he towers an inch over 6 feet, weighs 216 pounds, is married and has three children.

Navy officers and scientists look to him as the "hidden brain" in solving the difficult problems of preparation for the Antarctic scientific program in the international geophysical year 1957-58.

Siple said that establishment of a U.S. scientific station at the South Pole will be a difficult feat. But he thinks it will be accomplished.

The entire geophysical-year scientific program in the South Pole vicinity will depend on finding a runway level and long enough for landing and takeoff of airplanes.

Preliminary landings in the vicinity may be made in the coming Antarctic summer, but the big "air lift" of construction materials for the base is expected in November-December, 1956.

Siple was asked about the possibilities of mineral discoveries in Antarctica.

"There is lots of coal in Antarctica,' he replied, "and there are traces of many minerals, but thus far no bonanza of minerals has been found.

"Thus far there has been no discovery of uranium. From a speculative angle, uranium is widespread on the face of the earth and has been found on all other continents. Consequently it is possible that it might be found in Antarctica."

SOUTH POLE COOK PLEDGES REFORM

U. S. Antarctic Seabee Chef Assures the Men He'll Serve No Pemmican

ABOARD U. S. S. GLACIER, in the South Pacific, Dec. 1—In his quiet way, Commissaryman 2/c Stanley C. Povilaitis of Mount Carmel, Pa., is an outspoken foe of pemmican. No matter how it is fixed, "it's still pemmican," says the cook.

To the sixty Seabees who will spend 1956 in the Little America region on the Ross Ice Shelf of Antarctica, cook Povilaitis' attude is fascinating.

The men can stand around and hear him talk for hours against pemmican—a dried prepared meat, usually beef, with suet, sugar and raisins. They feel that when they gather 'round the table during the chilly Antarctic nights when the temperature drops to 70 below, the food will be just dandy, varied and minus pemmican.

The job of constructing and maintaining stations will require the wintering of groups throughout 1956, 1957 and 1958, and Cook Povilaitis is among the Seabees who volunteered for the first year's wintering. The group he is with will build a station at Little America and a second station 500 miles to the southeast in Marie Byrd Land. A second group will be stationed at McMurdo Sound, 350 miles to the west of Little America.

Like a great many other men, Cook Povilaitis, who is 36 years old, married and has three children, had never heard of pemmican until he signed up for Deepfreeze one unseasonally warm day last January. Since then he has heard plenty about pemmican.

"It's a very concentrated high protein, high fat food made predominantly of meat," he recites with admirable objectivity. "It doesn't spoil easily and I hear they're making it tastier this year. I also know that the old polar explorers like Amundsen and Scott used it and that you can make lots of things from it like soups, stews and pies. But to me its still pemmican.

"We are taking plenty of it with us. But we don't plan to use it unless the gas ranges break down or something."

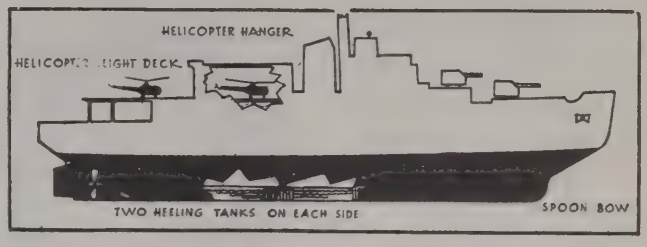
To make sure that everyone is as happy as can be expected in perhaps the harshest environment in the world, the Navy is sending along tons and tons of a great variety of fresh foods for the parties of wintering-over Seabees.

According to officers aboard the Glacier, enough food is being transported south to provide four meals a day. That will guarantee that every man will have 5,500 calories daily, which is a lot more than the average man consumes back in the States. Further there will always be soup and coffee on the fire.

And just in case ice conditions during the next Antarctic summer—that is, between December, 1956 and February, 1957—are so severe no ships can reach the wintering-over parties, the men will not have a thing to worry about. They are taking along sufficient food to keep the larders full for two years.

Navy Adds Giant Icebreaker

By Capt. Frederick L. Oliver
United States Navy, Retired
Naval Correspondent of
The Christian Science Monitor



The United States Navy has added to its fleet the recently completed icebreaker USS Glacier. So far as known the Glacier is the largest vessel of its type in the world today.

This variety of specialized ship came into use by the United States Navy during World War II when naval activities expanded into the frozen northern seas. Prior to that time the Coast Guard had maintained numerous small vessels equipped to deal with moderately thick ice in inland waters.

The Soviet Navy, however, has used powerful icebreakers for many years in an effort to cope with the handicap that heavy ice has imposed on its use of the sea from the Baltic to the Far East via Arctic waters. Until the United States Navy interested itself in icebreakers, the Soviets had what amounted to a monopoly on the details of their construction and efficient operation.

When it became apparent that United States control of Arctic waters required the use of big icebreakers, the Navy rounded up all available data on the subject, and designed a type of vessel that has proved eminently successful.

Ships Returned in 1949

A number of icebreakers were constructed, among them the USS Eastwind and three sister ships. The latter were turned over to the U.S.S.R. as soon as they were completed, and evidently were found very satisfactory ships by the Soviet Navy. Despite numerous requests and a lot of official bickering on the subject, they were not returned to the United States until the latter part of 1949.

The Eastwind class of icebreaker displaces 6,000 tons, and is 269 feet long with a beam of 63 feet. They have diesel-electric drive producing 13,300 horsepower, and are equipped with three propellers, two of them aft and the other forward.

The new Glacier is 310 feet long, 74 feet in beam, and displaces 8,300 tons. Its diesel electric drive develops 21,000 horsepower, so this new model icebreaker is considerably more powerful than the earlier Eastwind design.

Ships of both types are very stubby in appearance, because their beams are almost double that of a normal vessel of similar length.

Modern icebreakers are designed to force themselves through heavy floes of thick ice. The Eastwind type has successfully coped with ice up to 12 feet in thickness, and the Glacier is expected to handle ice 15 feet thick.

Vessels of both types are built with exceptionally strong hulls having plating more than double the thickness found on an ordinary type ship, and a heavily reinforced framework.

Normally they depend on ramming themselves through ice floes. When this method fails, the forward propeller under the spoon-shaped bow is used to draw water from beneath the ice, while the sloping bow is forced onto the ice. The dead weight of the forward part of the ship usually cracks the unsupported ice, the broken hunks being washed aft by the screw current.

Icebreakers are built with rounded bottoms to prevent the massive force of crunching ice from crushing their hulls. When the ice pressure becomes too severe, it merely pushes the hull up instead of in.

Ballast Permits Rocking

Another feature of the modern icebreaker designed to facilitate their working free from ice jams is a means of rocking the ship. Large ballast tanks are provided on either side and in both ends of the ship. Pumps of large capacity transfer water ballast between tanks in a matter of minutes, setting up a rhythmic roll which usually rocks the ship free.

Fore and aft shifting of water ballast gives the ship a teeter effect that breaks up ice under the bow and stern. In the event these methods fail to free the ship, strategically placed charges of high explosives are used to break up the surrounding ice.

Modern icebreakers have storage capacities for sufficient fuel and provisions to sustain themselves for an almost indefinite period of time should they become stuck in the ice. Additional supplies always can be provided by air when necessary.

One of the first operations performed by a modern icebreaker during World War II was clearing the way through extensive ice floes bordering the east coast of Greenland for an expedition which destroyed Nazi weather stations that were providing the Germans with essential meteorological data.

Helicopter on Board

Since then icebreakers have been employed in making passages through the ice for several expeditions to Antarctic regions, and similar duties in connection with supplying the steadily increasing number of weather, radar, and air stations maintained in Arctic areas.

All icebreakers today carry one or more helicopters, whose mission is to search out and mark leads in an ice field through which ships can most readily force their way.

Comfortable living quarters are provided for the Glacier's crew of 19 officers and 320 men. Other features to assist in maintaining morale under trying circumstances attending Arctic duty include a large recreation room, a ship's store, laundry, barber shop, ample refrigeration space for food, and a distilling plant capable of furnishing abundant quantities of fresh water.

USS Glacier was contracted for in 1952, launched in August, 1954, and was built by the Ingalls Shipbuilding Corporation at Pascagoula, Miss. The ship is named for Glacier Bay in Alaska.

The opinions expressed in the above article are those of the author and are not to be construed as reflecting the views of the Navy Department or of the naval service at large.

Icebreaker Back From Arctic

BOSTON, Sept. 12—The Coast Guard icebreaker Eastwind returned today from three months in the Arctic. She had escorted a Navy task force making surveys for a radar warning system. Capt. Oscar C. Rohnke, skipper of the Eastwind, said the vessel had been in waters "never traversed by modern vessels before."

BRITON OUTLINES ANTARCTIC PLANS

Leader of Trans-Continental Expedition Cites Complex Preparatory Program

The following article was written by the leader of the British Commonwealth expedition that plans to cross 2,000 miles of Antarctica in 1957-58.

By DR. V. E. FUCHS

World Copyright by The Times, London.

LONDON, Nov. 10—Since the days when men by accident, and later by design, first began to visit the Southern Polar Regions, our conception of that vast area has slowly crystallized. In 1773, when Capt. James Cook began his circumnavigation of the ice-bound seas, there was no certainty that land might exist in the far south.

On Jan. 20, 1820, Edward Bransfield and William Smith for the first time sighted land that was later to be proved part of a continent. Thereafter men of many nations gradually provided evidence to show the existence of a vast continental land mass almost the size of Europe and Australia together.

Throughout these early days until the beginning of the present century, all that ships and men could do was to reach the forbidding coasts and perhaps survey a small part before retreating from the onset of the dark winter night.

From 1901 onwards the assault on the interior of the continent began. The first aim of the Scott and Shackleton expeditions was the Pole itself. These expeditions set up their bases in the Ross Sea, where it is possible to travel farther south by ship than at any other point.

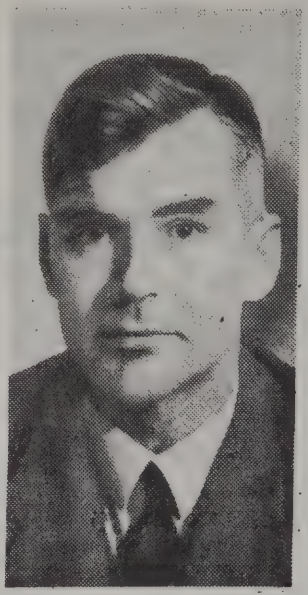
Weddell Shore Reached

Only on three occasions have ships penetrated to the southernmost shores of the Weddell Sea on the opposite side of the continent. The last voyage was that of the Argentine icebreaker San Martin in January, 1955, which made a successful return voyage through considerable sea-ice.

These journeys and voyages, together with those of numerous other Antarctic expeditions that have worked on and near the shores of the continent, leave the vast mass of the interior unknown. The British trans-Antarctic expedition proposes to travel nearly 2,000 miles across the very heart of the continent where, apart from the Pole itself, less than 100 miles of the route has been seen before.

Our general plan is to set up bases on both sides of the continent and from each of these to establish depots inland toward the Pole. The distance between the farthest south depots on each side will be about 1,100 miles with the South Pole lying almost halfway. The crossing will be made from the head of the Weddell Sea to McMurdo Sound in the Ross Sea during the period November, 1957, to February, 1958.

Head British Antarctic Expedition



Dr. V. E. Fuchs
Leader of main party

© The Times, London

Sir Edmund Hillary
New Zealand group leader

Advance Party to Leave

The advance party leaving Monday from London will establish the base site in the Weddell Sea and carry out inland reconnaissance over the first part of the route. The corresponding base of the New Zealand party under Sir Edmund Hillary will not be set up in the Ross Sea until December, 1956.

The ship in which the advance party is sailing is the Theron, of 829 tons, specially built in 1950 at Glasgow for work in ice-filled waters.

In London the Theron will be loaded with huts, two years' stores, five tracked vehicles, two Auster aircraft, scientific equipment, twenty-four dogs, and a multiplicity of items such as generators, radio, and power tools.

The Theron will sail with seventeen members of the expedition. At Montevideo Sir Edmund and J. A. Miller, from New Zealand, will join the ship. Sir Edmund, Mr. Miller, and Squadron Leader R. Claydon, who is already in Britain, are joining the advance party to gain experience of Antarctic conditions, base building, and flying, which will all be of value to them when establishing the base in the Ross Sea.

The ship will enter the Weddell Sea on a course selected in the light of the available evidence on ice conditions. It is expected that air reconnaissance will greatly aid the penetration of the more northern ice fields and that the ship will then reach relatively open water along the coast of Coats Land.

It is known that for 600 miles the entire east and southern coasts of the Weddell Sea are skirted by precipitous ice cliffs up to 120 feet high. We hope to find points where the cliffs are no more than fifteen feet high, but we are prepared to land on cliffs as high as thirty feet.

Once a suitable site for the base has been selected we intend to moor the Theron alongside the cliffs of the iceshelf and to unload directly on to its flat snow surface. If the height of the cliff is too great for the ship's derricks, we propose to build a ramp and to haul up our 300 tons of stores by means of tractors.

The tractors are of a normal agricultural type fitted with rubber and steel tracks, which are borne by the rear driving wheels, and a pair of bogey wheels midway along the length of the machine.

Besides the tractors there will be two wartime "weasels," a type of tracked vehicle that has already proved its value in the Arctic and in the Antarctic.

A third type of snow vehicle is the "sno-cat," which is driven by four independently articulated tracks mounted on pontoons. It is intended that the "sno-cats" shall be used for the actual trans-continental crossing, while the older "weasels" will be used in depot-laying and other short journeys.

For the establishment of the base in the coming southern summer, the vehicles will be used to transport our hut and stores inland away from the edge of the iceshelf. The distance inland will be determined by the ice conditions and may be as much as five miles.

The hut itself is an original design intended to carry a very heavy burden of snow when it becomes buried. It is seventy-two feet long and twenty-seven feet wide and consists of a prefabricated frame and insulated panels designed for strength, warmth, and speedy construction.

Within the hut is a central living room, a kitchen, a radio room, a darkroom, a workshop, a generator room, a store and a bathroom. All these are of very small size, the largest being the living room where sleeping bunks are ranged round the walls. This makes the living room the hub of base life, for there everyone will eat, sleep, and do most of his indoor work.

There will be a cooker, normal electric lighting from two six-kilowatt generators fitted with cold starting aids, solid fuel heating, auxiliary electric fires, and liquid fuel stoves.

As soon as the hut building is sufficiently far advanced, the installation of the wireless equipment and the erection of the aerial systems will begin. Normal communications will be maintained with the Falkland Islands or with Capetown, but it is also expected that the base will be able to speak directly to London.

Route to Be Explored

At this stage it is likely that the ship will have to leave on her return voyage through the ice of the Weddell Sea. Eight men will remain at the base, which is to be known as Shackleton Base, for the winter. They will have as much work as they can do. There will be the garage to build for the vehicles and the balloon hut must be erected from the upper-air radio-sonde program. These balloons carry radio transmitters that send back high-altitude readings of the state of the upper air.

During the southern autumn and the dark winter, the base installations will be completed and a certain amount of dog-training carried out in preparation for the coming spring, when an inland reconnaissance will be made.

At about the same time as the expedition's ship from England reaches Shackleton in January, 1957, Sir Edmund will be arriving in the Antarctic with his party from New Zealand. Almost 2,000 miles from us, on the far side of the continent, he will build his base on one of the Dailey Islands in McMurdo Sound.

In addition to the task of building, he will carry out air reconnaissance of the Koettlitz and Ferrar glaciers, one of which will be used as the route

to the high inland ice. It may even be possible for him to make a first attempt to prove the route with dog teams before the winter closes down. If that can be done it will greatly simplify the work in the following spring, when the depot is to be established in the vicinity of Mount Albert Markham, 300 miles from the base.

Depending on the rapidity with which this depot can be built up and the progress of the survey and geological work on the unknown side of the Victoria Land mountains, Sir Edmund may be able to travel beyond the Albert Markham depot and meet the transcontinental party nearer to the Pole itself.

Actual Crossing Starts

At Shackleton, where the final party will include two New Zealanders, an Australian and a South African, scientific work will continue side by side with the depot-laying program. The meteorological work will be extended by starting observations at Depot 300, which will continue throughout the winter. The men who do this particular work may have a somewhat difficult time. Their hut will certainly disappear beneath the snow, and they are likely to experience temperatures as low as 80 to 90 degrees below zero Fahrenheit.

During the actual crossing of the continent it is intended to sound the depth of the ice every twenty to thirty miles. In one area, to the northeast of the Weddell Sea, it is already known from the work of the Norwegian-British-Swedish expedition that the ice attains a depth of 8,000 feet at a point 200 miles from the coast.

Sounding will be carried out by drilling holes in the ice and firing explosive charges at depth. The shock waves reflected by the underlying rock will be recorded by seismographs at the surface, the time interval between the explosion and the reception of the reflected wave making it possible to calculate the depth.

The dome-like polar ice cap is thought to have a maximum altitude of between 10,000 and 11,000 feet but there is still very little information about the subglacial topography. As a result of the present investigation.

It may be shown that the Antarctic continent is composed of a number of archipelagos merged into one mass by the all-embracing ice. However, it is more likely that there will be found to be two major divisions, already indicated by existing geological knowledge. These lie on either side of the ice-covered area between the Weddell Sea and the Ross Sea.

In the course of all our journeys two surveyors will be mapping on a scale of 1/200,000. Where necessary, short diversions will be made from the main route for survey purposes.

Another important study will be in the field of physiology. Members of the expedition will cooperate by subjecting themselves to a variety of measurements and tests designed to throw light on human acclimatization to cold over prolonged periods. This work will include observations on sleep rhythm, variations in body temperature, tactile sensitivity, and the relation of measured food intake to work done at known temperatures.

Under normally good conditions, we may expect to travel twenty miles a day with the dogs and thirty or forty miles a day with the vehicles. The present plan is for the dog teams to leave Shackleton for Depot 300 in advance of the vehicle party of four "sno-cats" and two "weasels." Then, when the vehicle party leaves, two pilots and one mechanic will remain at Shackleton with the "otter" ready to be called forward to the depot when the sledging party has made sufficient progress.

Advance Beyond Pole

The "otter" will then remain at Depot 300 until the ground party reaches some obstacle or is within 200 miles of the Pole, when it will move forward to join them. About two weeks later, about New Year 1958, we should be in the vicinity of the Pole itself.

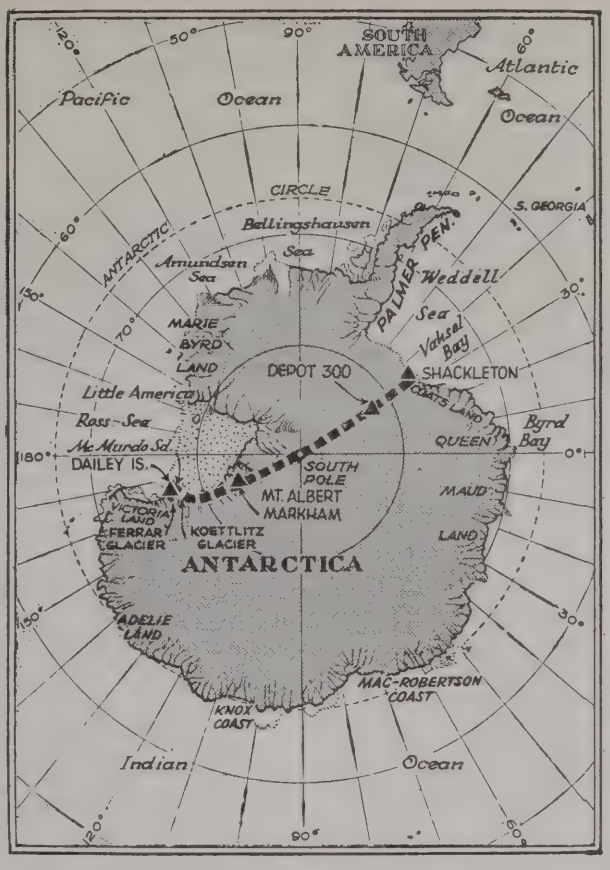
It is at about this stage that we expect to be sending the "otter" forward to the Mount Albert Markham depot on the other side of the Pole. It may well be possible for us to receive wireless reports concerning the most likely route by which to circumnavigate any mountain obstruction that may exist. If necessary, the aircraft could return with information and make further reconnaissance.

By the first week in February the crossing party should be approaching the Mount Albert Markham depot, where we expect to meet Sir Edmund and the Ross Sea group, unless they have been able to press on farther south. In that event they would already be with us by the beginning of February and we should be traveling together over the route pioneered by them.

By then it will already be time for traveling parties to be leaving the ice-cap in view of the blizzards that February can bring, and by the end of the month it will be time for the ship to be leaving the Ross Sea before the freeze-up sets in.

Before we can reach the Dailey Islands base there will remain one problem: Will it be possible to get our heavy vehicles down the glacier route to McMurdo Sound? If we cannot, they and much of our equipment will have to be abandoned, at least temporarily, and we shall be compelled to ski the last fifty or sixty miles to the coast with the dog sledges.

I would like to emphasize that the journey is a joint enterprise by the Weddell Sea and the Ross Sea parties. The successful and safe crossing of the continent rests equally in the hands of both.



ACROSS ANTARCTICA: The probable route to be taken by the British Commonwealth parties (broken line).

ROYAL SOCIETY SHIP OFF TO ANTARCTIC

LONDON, Nov. 22—Another ship carrying scientists and equipment left Britain today for an unspecific destination in the Vahsel Bay region of the Weddell Sea in the Antarctic. It was the 540-ton motor vessel Tottan, chartered by the Royal Society in support of the forthcoming International Geophysical Year research.

A research station will be set up on the ice not far from the base camp where Dr. Vivian Fuchs will set off on the first part of the British trans-Antarctic expedition, probably in November, 1957.

The Tottan is following Dr. Fuchs' ship, the Theron, which left last week. She will take advantage of the Theron's air support because apparently nobody yet knows whether navigable channels can be found through the moving ice of the Weddell Sea.

The Royal Society scientists intend to study among other things auroral lights and the measurement of atmospheric ozone.

The aurora australis, the southern counterpart of the northern lights, will be photographed every minute for at least a year.

Expedition Will Travel Light

WELLINGTON, New Zealand (Reuters)—By comparison with the United States party, the New Zealand expedition to the Antarctic next year will have to rough it. The New Zealanders will take with them only fifteen tons of supplies for each man. The Americans are taking thirty tons per man.

Britons Climb Antarctic Peak

LONDON, Dec. 24 (Reuters)—Three members of the Falkland Islands dependencies survey have climbed Mount Francis, one of the highest peaks in the British South polar region, the Colonial Office announced here today. The 9,060-foot mountain had never been scaled before.

BRITISH UNIT OFF FOR ANTARCTICA

Advance Party on Canadian Seaier Almost Misses the Afternoon London Tide

LONDON, Nov. 14—The advance party of the Commonwealth Antarctica Expedition sailed on the afternoon tide today, but only barely.

The white-painted Theron, an 849-ton Canadian seal-catching vessel that has been hired for the expedition at a cost of nearly $800 a day, was scheduled to leave her berth at midday.

At 3 P. M., the loading still was unfinished, and policemen had to be called to hold back large crowds of sightseers, press camera men and television teams as supply trucks tried to edge alongside the gangways to unload supplies.

At 4 o'clock, the skipper, Capt. Harald Thoro of Nova Scotia, was told by the dockmaster that only half an hour of ebb water remained under the blunt, ice-breaking bow of the Theron.

At 4:15, a crate holding twenty-four howling husky dogs was swung aboard and finally lashed down on the deck alongside living-huts, four tracked vehicles, two light Auster aircraft and stores for a two-year sojourn amid the southern ice.

At 4:20, the ship edged away, to the accompaniment of cheers from the crowd and the mournful tooting of a toy bugle played by a small boy standing atop an oil barrel.

Dr. V. E. Fuchs, leader of the group, was aboard the Theron with sixteen members of the expedition. The ship will sail direct to Montevideo, Uruguay, where the party will be joined by Sir Edmund Hillary, conqueror of Everest. He will lead a New Zealand party from the opposite side of the Antarctic continent.

After establishing base camps on both sides of Antarctica, the two explorers hope to join forces somewhere in the vicinity of the South Pole about Christmas, 1957, and journey back together toward McMurdo Sound and the Ross Sea.

The first obstacle to be overcome, Dr. Fuchs said today before he left, is the ice of the Weddell Sea far below the tip of South America.

The Theron will stop at the island of South Georgia in the south Atlantic in about five weeks and refuel with enough oil for fifty days' sailing. She will then head due south for the massive ice cliffs of the Weddell Sea along a route that will probably be radioed down to her from her light aircraft.

British Antarctic Team To Grow Own Greens

LONDON, Sept. 3 (Reuters)—The British Commonwealth trans-Antarctic expedition of 1957-58 announced today plans to grow fresh vegetables during its bleak year at bases in the South Polar regions.

George Lowe, expedition photographer and a member of the successful Mount Everest expedition of 1953, explained that the gardens would serve primarily to raise the explorers' morale.

An advance party of eight, which will carry equipment for soilless and sunless gardens, will leave Britain in three months to set up a depot at Vahsel Bay, on the Weddell Sea. The main party, led by Dr. Vivian Fuchs, will follow a year later.

Sholto Douglas, a British expert in hydroponics—the science of growing plants without soil—said the vegetables would be grown in troughs of gravel and sand, which would anchor the roots and keep them moist. He added that nourishment would come from a mixture of four chemicals and that artificial light would be substituted for sunlight during the six months of Antarctic darkness.

TRAINING FOR ANTARCTIC

Hillary Prepares Dog Teams for New Zealand Expedition

Science Service.

SYDNEY, Australia—Sir Edmund Hillary, conqueror of Mount Everest, will cross the Southern Alps of New Zealand with dog teams twice next year.

The crossings will be part of training for dog teams with New Zealand's Antarctic Expedition in 1957, which will be led by Sir Edmund.

The explorer said that he wanted to have the dog team parties as proficient as possible before the expedition left New Zealand.

He expects the expedition to meet the most difficult territory early in its Antarctic journey.

One of the training trips will be from Tasman Glacier to Murchison Glacier. The other will be from Tasman Glacier to Franz Josef Glacier over the Graham saddle. Sir Edmund said that the second trip would be worse than anything the expedition was likely to encounter in the Antarctic.

MONTEVIDEO, Uruguay, Dec. 10 (UP)—Sir Edmund Hillary, the conqueror of Mount Everest, and other prominent explorers and scientists sailed from here today

British Information Services

EVEREST CONQUEROR: Sir Edmund Hillary, conqueror of Mt. Everest, world's highest peak, will lead an expedition to the Antarctic during the winter of 1957-58. First contingent of the British Commonwealth Trans-Antarctic Expedition, led by Dr. Vivian Fuchs, will leave Britain in November, followed early by the New Zealand contingent under Sir Edmund. Air Marshal Sir John Slessor looks on as Sir Edmund dons the reversible nylon furleen jacket he will wear on the expedition. The jacket, called an anorak, required eight years of British research to develop.

WEDDELL SEA ICE TRAPS BRITISH SHIP

LONDON, Friday, Dec. 30—a message from Dr. Vivian Fuchs, leader of the British Antarctic expedition, reported that on Tuesday his ship, the Theron, was trapped in ice in the Weddell Sea.

Today's Daily Mail said the following message had been received in London yesterday from Dr. Fuchs:

"After encountering heavy ice 25th finally reached impenetrable area 26th. At one time extricated ship after being trapped four hours and moved from path of two large icebergs cutting through the pack.

"First air reconnaissance flight made 22.00 hours (10 P. M.) 25 December. Successful in finding route through impasse. Now held between floes many acres extent awaiting wind change."

With Dr. Fuchs on the Theron, an 849-ton sealer, are Sir Edmund Hillary, the conqueror of Everest, seventeen other explorers and nineteen crewmen. They will set up a first base in the Weddell Sea (Atlantic) sector of Antarctic.

Following the Theron by a few days is the 450-ton Tottan. She carries ten men who plan to establish a scientific station for the Royal Society as part of its contribution to the International Geophysical Year 1957-58, a world-ranging research undertaking.

Britons Use Spotter Plane

LONDON, Dec. 30 (Reuters)—The advance party of the British Commonwealth Antarctic expedition, reported trapped by pack ice in the Weddell Sea, is expected to continue its voyage with the help of its spotter plane. If necessary, the party will use dynamite to blast through the ice, a spokesman said here today.

VISIT PENGUIN ROOKERY

Aussie Make 140-Mile Trip in Antarctic by Dog Sled

Australian scientists with the Australian Antarctic expedition based at Mawson have reported that they recently completed a visit to one of the five known rookeries of emperor penguins in the frozen wilderness, according to the Australian News and Information Bureau.

The scientists found 2,000 birds at the rookery. The birds were closely assembled on a strip of ice. They breed in the depth of winter. The scientists traveled 140 miles by dog sled to get to the rookery. The journey required two weeks in temperatures between 10 and 50 degrees below freezing point.

Australians to Map Unexplored Tract

By Reuters

Canberra

An Australian expedition will reconnoiter the hitherto unexplored 1,800-mile coast of Wilkes Land, Antarctica.

External Affairs Minister Richard Casey has disclosed that the exploration would be carried out by members of the relief team for the Australian National Antarctic Research Station at Mawson, which leaves Melbourne early in December in the polar ship Kista Dan.

Mr. Casey said landings would be made at several points and exploration and mapping would be done from aircraft and snow vehicles.

The shore of Wilkes Land is made up mostly of ice cliffs and glacier front, and the immediate approaches have previously been found choked with impenetrable pack ice.

ANTARCTIC PARTY OFF

Australian Advance Group Leaves Melbourne

MELBOURNE, Australia, Dec. 27 (Reuters)—The Australian 1956 Antarctic expedition left here today twenty-four hours after a party of French scientists had left Hobart, Tasmania, for the polar region.

Both expeditions are advance parties for the world-wide survey of Antarctica during the International Geophysical Year of 1957-8. A United States expedition is already in the polar seas.

Advance parties of the British Commonwealth expedition are on their way to the Antarctic to set up base camps.

Nearly 1,000 persons stood in the rain to wave good-by to the twenty-six Australian scientists and explorers who will survey the coast of the section of the Antarctic continent claimed by Australia.

The Danish-owned polar exploration ship Kista Dan is taking the expedition to Mawson base, the permament Australian headquarters on the mainland.

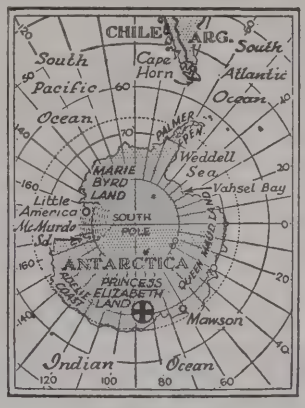
Australian Base Relieved

MELBOURNE, Australia, Dec. 26—The Danish motor vessel Kista Dan has just completed the annual relief of the Australian Antarctic station at Macquarie Island. She will leave Melbourne tomorrow with nineteen men to relieve fifteen men who have been at the Mawson Australian station on the Antarctic mainland for the last twelve months.

The expedition has two other important objectives. The first is to explore the coast of Wilkes Land in Australian Antarctic territory, which recently was photographed from the air. However, no man has yet set foot on the territory. To do this, the Kista Dan will sail almost due south for nearly 2,000 miles. She should reach the coast of the Australian sector at a point about 1,100 miles from Mawson.

The second objective is to select a site for the second Australian base in the Vestfold Mountains, about 350 miles east of Mawson, that will provide a valuable intermediate station between Mawson and the American and Soviet bases on the coast.

Australia Plans 2d Base On Antarctic Mainland



MELBOURNE, Australia, Aug. 31—Richard G. Casey, Minister for External Affairs, announced today that Australia would establish a second research and weather station on the Antarctic mainland.

He said the Antarctic Planning Committee had recommended a station in the Westfold Hills in Princess Elizabeth Land, 350 miles east of the present Australian station at Mawson. Next year an expedition will choose a site for the new station in what was a rocky, ice-free area. It is scheduled to be fully in operation before the International Geophysical Year begins in 1957.

Non-Stop Flight To Antarctica

By the United Press.

SANTIAGO, Chile, Dec. 30—A Catalina Flying Boat made the first non-stop flight from Chile to Antarctica, the Defense Ministry announced yesterday.

The flying boat belonging to the Chilean Air Forces flew 675 miles from Punta Arenas in southern Chile Wednesday to a base on Deception Island, which is claimed by Chile. The flight took six hours and 47 minutes. The plane returned yesterday.

Hammarskjold Wants No Part of the Antarctic

UNITED NATIONS, N. Y., Aug. 12— Dag Hammarskjold, United Nations Secretary General, wants no part of the Antarctic regions, he said today.

At a press conference, an inquirer called Mr. Hammarskjold's attention to France's establishment of autonomous status for Adelie Land in the Antarctic and for islands south of Madagascar. He asked the Secretary General whether the time had come for the United Nations "to put things in order in the Antarctic."

"It certainly is very important," Mr. Hammarskjold replied. He added, however: "Frankly I have so many things in my lap already that I would be scared to get this one, which seems to be a youngster of rather violent temper."

POLAR SURVEY ENDED

British Discover New Route on Palmer Peninsula

LONDON, Nov. 17 (Reuters)—A four-man sled party from the Falkland Islands has just completed a successful survey of uncharted parts of Palmer Peninsula [Graham Land] in Antarctica, the British Colonial Office announced today.

The team, based at Hope Bay, traveled about 900 miles across icy territory where temperatures of minus 50 degrees Fahrenheit are recorded.

They discovered "an easy route" to the roof of the 8,000-foot plateau. The new route will help future survey parties to explore the central part of the hinterland.

On the east coast of the Peninsula, the team reported seeing between 4,000 and 6,000 seals.

They also discovered that a group of islands—the Jasons—were not islands at all but had a land connection with the mainland.

Big Catch of Whales

CANBERRA, Australia (Canadian Press)—A group of 2,040 hump-back whales, valued at $4,500,000, were taken by the five Australian whaling stations last season. Australia exports most of its whale-oil extract, but uses some for stock-feed.

'Antarctic Truce' Renewed

LONDON, Nov. 21 (Reuters)—Britain, Chile and Argentina today renewed for another year their "Antarctic truce," limiting the number of warships they will send to the disputed regions of the Antarctic, the Foreign Office announced.

Eden Rejects World Status in Antarctic

LONDON, Nov. 9 (AP)—Prime Minister Eden yesterday rejected a suggestion that the Antarctic continent be designated a world territory under the jurisdiction of the United Nations.

The proposal was made in the House of Commons by H. S. Osborne, a Laborite.

Eden answered "No sir" when asked if he would advance such a plan to President Eisenhower and Soviet Premier Nikolai Bulganin.

The Antarctic continent, the frozen land lying about the South Pole, has been divided like a pie by the claims of various nations, including Britain, to portions of it. Many of these claims overlap.

ARGENTINA SHUNS COURT

Rejects British Bid for Test on Antarctic Rights

BUENOS AIRES, Aug. 3—Jeronimo Remorino, the Foreign Minister, made public today a note to the International Court of Justice stating that the Argentine Government would not submit the problem of disputed Antarctic territories to the court.

Señor Remorino rejected a proposal by Britain that the court in The Hague, the Netherlands, settle the dispute over territories claimed by both countries.

The note said the Argentine Government would not abandon the "fundamental principle that territorial sovereignty should not be submitted for discussion nor put up for judgment."

It added "this sovereignty is based on unquestionable rights and in titles which are derived and supported by legitimate means of acquiring territorial domination in an effective, recognized and pacific possession."

The territories involved are the South Shetland Islands. Britain ejected Argentine and Chilean settlers on Deception Island early in February, contending they were infringing on British territory.

Whaling Expeditions

Twenty whaling expeditions from six countries will participate in the 1955 Antarctic whaling season. They include nine from Norway, four from Britain, three from Japan, two from the Soviet Union and one each from Germany and the Netherlands.

Not All Penguins Antarctic

Of seventeen recognized species of penguins, only eight breed on the Antarctic Continent or islands.

AMERICAN HEADS FRENCH POLAR BID

Victor, as Chief of Paris Antarctic Committee, Plans to Leave Unit and Return

By ROBERT TRUMBULL

HOBART, Tasmania, Dec. 23—A French Antarctic expedition will leave here Monday for the South Magnetic Pole in a Norwegian ship and with an American leader.

Paul Emile Victor, 47-year-old director of the French Polar Expedition and chairman of the French Antarctic Committee for the International Geophysical Year 1957-58, enlisted in the United States Air Force in 1942 and obtained American citizenship the same year. He also remains a citizen of France but travels on his United States passport.

Voyaging 1,600 miles south from here in the veteran polar ship Norsel, owned in Norway, the expedition will strike the fringe ice of the Antarctic Continent in about seven days.

Although not actually an icebreaker, the sturdy 600-ton Norsel is expected to be readily able to plow through the belt of ice sixty to 100 miles wide before landing the party at Point Géologie on Adelie Coast. The region, discovered by the French Admiral Dumont d'Urville in 1840, has been an area of French Antarctic exploration since 1949.

After moving its 400 tons of supplies ashore at the base left at Point Géologie by the French Expedition of 1949-53, the current expedition will push on 300 miles inland to the South Magnetic Pole and set up a satellite base, M. Victor said today.

M. Victor and four other members of the expedition will return to Australia in the Norsel and fly back to France. A party of fourteen will remain in the Antarctic until the arrival of a relief team in February, 1957. This group will be led by Robert Guillard, veteran of seven years on the Greenland icecaps.

The French drew the South Magnetic Pole site when areas were apportioned among nations sending expeditions to Antarctica, as part of the cooperative polar program for the International Geophysical Year.

France's expedition to Antarctica will be entirely without air support. The terrain around the South Magnetic Pole is unsuitable for landings and there are constant winds of fifty to 100 miles an hour, M. Victor said.

Since the French have become thoroughly acquainted with the region in previous explorations, the party will not use dogs either but will move its equipment on sleds with three weasels, two snowcats and a tractor. These are tracked vehicles specially adapted for snow.

A semi-circular aluminum hut to be set up at the Magnetic Pole will be mounted on sleds in three sections, which will be bolted together at the site, M. Victor said. The walls of the hut have two inches of chemical-fiber insulation for protection against cold.

Fifteen tons of equipment, including food for two years, will be transported from the base camp to the bivouac at the Magnetic Pole.

With the nine other national expeditions the French will make observations of conditions affecting weather in the stratosphere, which at the poles is nearest the surface of the earth. The stratosphere lies about 15,000 to 20,000 feet up at the ends of the world, whereas in the tropics, because of the effect of rotation of the earth, it is as high as 30,000 feet. Factors in the stratosphere may have long-range weather effects.

The expedition will also try to penetrate the mystery of the origin of the aurorae, the strange lights seen in the sky at extreme latitudes. The South Magnetic Pole is considered the most favorable site for observing the aurorae, M. Victor said.

Mr. Victor reported on the Antarctic trip to the Explorers Club in New York, of which he was recently elected a full member, at the annual dinner March 16. He will return to the Antarctic next October.

BOUND FOR ANTARCTIC: A French expedition will leave Hobart (1) for Point Géologie (2). Later it will go on to the South Magnetic Pole (3).

Mr. Victor served as a parachutist with the United States Air Force in Alaska during World War II, leaving the service with the rank of captain. He is a special consultant to the United States armed forces on Polar operations.

The relief expedition to Adelie Coast in February, 1957, will be led by Bertrand Imbert, over-all chief of the three-year Antarctic project for the French Scientific Research Council.

Home Rule in Antarctic Regions Wins French Assembly Approval

Adelie Coast's and Isles' Scientists and Penguins Subjects of Reform

PARIS, Aug. 5—What is called "autonomous status" is being conferred by France on unnumbered penguins, 1,500 head of cattle and ninety Frenchmen who inhabit a territory as big as the mother country.

Unlike the natives of other French possessions, the inhabitants of this territory, known as the Southern and Antarctic French Lands, have not been agitating for home-rule reform.

The establishment of the new Autonomous Territory is an administrative move, according to the Ministry of Overseas France. The National Assembly approved it unanimously today.

What it means is that Adelie Coast in Antarctica, and the Crozet, Kerguelen, Saint Paul and Amsterdam Islands in the Southern Indian Ocean will cease to be dependencies of the big French island of Madagascar. From now on, the Southern and Antarctic Lands Administration will have its own budget and will be represented in Paris by a Consultative Council attached to the Overseas Ministry.

The Adelie Coast, discovered in 1840 by the French explorer Dumont d'Urville, is a sector of Antarctica between 136 degrees 20 minutes and 142 degrees 20 minutes East Longitude. France maintains there a meteorological station where some of the ninety Frenchmen work.

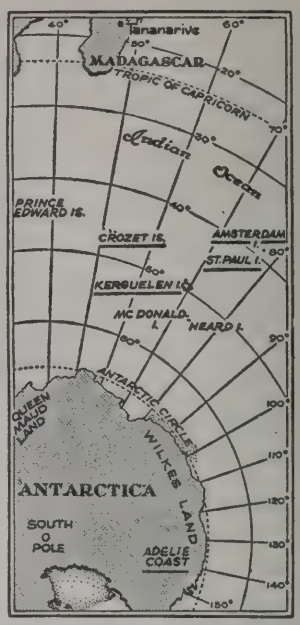
The 1,500 cows live about 2,000 miles to the northwest on Amsterdam Island. They are descended, according to legend at the Ministry of Overseas France, from a bull and a heifer left on the sixteen-square-mile island about half a century ago.

Amsterdam Island, at 37:50S, 77:34E, was discovered in 1552 and named in 1663 by the Dutch explorer Van Dieman. France claimed it in 1843. It has a meterological station. Frenchmen.

The neighboring three-square-mile Saint Paul Island abounds with lobsters, but not with Frenchmen.

The Crozets, 1,500 miles off the southeast coast of Africa at about 46 S, 51 E, are a dozen isles so forbidding and dangerous to ships that only the most daring seal hunters go there.

The Kerguelens are about 300 islands and islets with an area of 2,700 square miles at about 49 S, 70 E. The largest is called Desolation Island. Frenchmen have tried to raise sheep there, but they gave up in 1932.



France is giving the areas underlined on map a status separate from Madagascar.

AUSTRALIANS HIT STORM

Antarctic Party Is Held Up by Severe Blizzards

MELBOURNE, Australia, Nov. 28—The Australian Antarctic party has traveled 125 miles south of its base at Mawson but blizzards Sunday stopped progress, Richard Gardner Casey, External Affairs Minister, announced tonight.

Mr. Casey said the Australians were first to start the 1955-56 season of Antarctic exploration. The party, led by John Bechervaise of Victoria, Australia, seeks to penetrate 300 miles inland over the desolate Antarctic plateau.

Family Life of Penguin

Male and female penguins in the Antarctic incubate their eggs for thirty-six days.

SOVIET PARTY OFF TO THE ANTARCTIC

First Ship of the Expedition Under Somov Sails to Set Base for Researches

MOSCOW, Nov. 30—A Soviet expedition left today to explore Antarctica. It is the first official Russian expedition to the region since Admiral Thaddeus von Bellingshausen, for Alexander I's Imperial Navy, circumnavigated the continent in 1820-21.

Mikhail M. Somov, veteran Soviet Arctic explorer, and other members of the main section of the current expedition left the Baltic port of Kaliningrad aboard the 12,500-ton Diesel electric motorship Ob. Another specially-fitted Diesel motorship, the Lena, will leave Dec. 15.

The Soviet expedition will establish three observation bases in Antarctica, including one near what is called the southern Pole of Inaccessibility, living in the center of a huge unexplored area.

A Soviet shore base on Knox Bay [at about 105 East Longihul] will be "only a few hundred kilometers" west of a similar United States base, according to Mr. Somov.

The Soviet Union is participating with the United States, Britain, France, Argentina, Australia, New Zealand, Belgium and Japan in setting up Antarctic observation posts in preparation for the International Geographical Year, 1957-58. The Soviet bases are being set up on the basis of agreements reached earlier this year in Paris and Brussels among the cooperating countries.

Mr. Somov announced in an interview with a Pravda correspondent that the expedition's main shore base would be named Mirny in honor of Admiral von Bellingshausen's flagship. The name is also appropriate from the viewpoint of current Soviet propaganda, because it means "peaceful."

A second Soviet base to be called Vostok (East) will be 750 miles from the Antarctic coast. A third post to be known as Sovietskaya will be still farther inland in the center of a vast uncharted area about the size of Europe. Mr. Somov said the two interior bases would be supplied exclusively by air.

It is thought about eighty persons in all will be stationed at the three shore bases. Many scientists will remain aboard the ships to conduct oceanographic and other research.

THE DIESEL-ELECTRIC SHIP OB, which will carry a Soviet expedition to the Antarctic

SOVIET OUTFITTING ANTARCTIC GROUP

Expedition Ship Will Carry Transports and Helicopters for Air Reconnaissance

MOSCOW, Oct. 11—The Soviet Union's expedition to Antarctica is being equipped for air and ground reconnaissance.

Transport aircraft and helicopters equipped for polar operations will accompany the expedition when it leaves later this year.

The main expeditionary ship Ob is being fitted for the voyage at Riga, Soviet Baltic port. The ship's decks are being remodeled to permit the landing of aircraft.

The stress on aerial reconnaissance by Soviet scientists was reflected in a recent article in Izvestia by V. Akkuratov, one of the Soviet Union's leading polar navigators. He wrote that a special map of the Antarctic regions was being prepared, embodying all data gathered through last year.

The Soviet Union announced in July it would set up three scientific bases in Antarctica during the International Geophysical Year to run from 1957 to 1958. In addition to the main base on Knox Coast, the Soviet expedition will establish observation posts near the South Geomagnetic Pole and what is called the "pole of inaccessibility." The latter lies at the center of a huge unexplored plateau and mountain region believed to be at least 10,000 feet high.

The Ob and an auxiliary ship are being equipped with biological, chemical and meteorological laboratories. The expedition will carry twenty collapsible dwellings built of light, insulated material and designed to shelter from four to six men.

Soviet airmen will be responsible for establishing two interior bases next spring after the expedition has set up a shore base on Knox Coast.

An ocean-going icecutter and a refrigerator ship will also go south with the two vessels carrying Soviet scientists and their equipment. The icecutter is a Diesel-electric craft of the type used to keep the Soviet Arctic sea route open. The refrigerator ship will carry canned goods, dry sour milk, dry sour cream and more than 300 tons of other food products.

The expedition will draw whale meat and whale liver from the Soviet whaling fleet that visits Antarctica annually.

Pravda, newspaper of the Communist party, wrote recently that the research envisaged by the program of the International Geophysical Year included meteorology, earth magnetism, polar lights, ionosphere, solar radiation, cosmic rays and glaciology.

The Soviet expedition is headed by Dr. Mikhail M. Somov, polar investigator.

JAP SCIENTIFIC TEAM TO GO TO THE ANTARCTIC

TOKYO, Sept. 27 (AP)—Japan will send a scientific team to the Antarctic late next year.

The newspaper Asahi, which will back the expedition, announced it will be part of the world-wide observance of the "international geophysical year" in 1957.

The Japanese team will visit the Antarctic twice, from December 1956 to January 1957 and from December 1957 to December 1958.

OSAKA, Japan, Dec. 8 (AP).—The refrigeration ship Miyajima Maru left Osaka for the Antarctic today to make preliminary checks for Japan's expedition in the 1957-'58 International Geophysical Year.

TOKYO, Dec. 24 (AP).—Dr. Takeshi Nagata, a Tokyo University professor, has been appointed head of the Japanese expedition to the Antarctic for the 1957-'58 international geophysical year, the Kyodo news agency said today.

Norway's Whaling Industry

The world's foremost whalers are Norwegians, according to Focus, a publication of the American Geographical Society. They have an Antarctic fleet consisting of 130 whaling ships and ten factory ships, larger than all other whaling fleets

VETERAN TO BLAZE ANTARCTIC TRAIL

Ex-Dogsled Driver to Head Party Marking Route to Scientific Station

ABOARD U. S. S. GLACIER, in the South Pacific, Dec. 2—A two-time veteran of Little America is making preparations aboard this icebreaker for a trek across the Antarctic ice.

The old Antarctic hand is Lieut. Comdr. Jack Bursey of Grand Rapids, Mich., a 52-year-old Coast Guard officer. His job is to head a seven-man party to blaze a 600-mile tractor route from the Little America area to the proposed site of a scientific station in Marie Byrd Land. The outpost's location is at Long. 120 degrees west, Lat. 80 degrees south, and it will be known as Byrd Station.

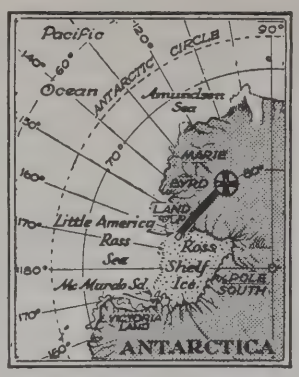
For the last few days, as the Glacier has been nearing Port Lyttleton, New Zealand, where she will take on supplies before proceeding to the Antarctic, Commander Bursey and his crew have been splitting thick bamboo poles into skinny bamboo poles. Next, they have been tying eight-inch squares of red cloth on the poles. These home-made flags will be used by the Bursey group to mark off the trail at the rate of one flag for every quarter of a mile.

"I can't wait to get started against the ice," Commander Bursey said today. "But that won't be for a couple of weeks, until we pull up at the Ross shelf. The seven of us will take off with three tracked vehicles and six sleds. We will also have air reconnaissance.

"Actually the distance between Little America and Byrd Station is about 475 miles, but we will probably have to do about 600 to avoid the crevasses and the zastrugi [ridges of hard snow formed by the wind]," he continued. "All in all we hope to average about thirty miles a day. Regardless of the weather—the mercury will be mostly around the 15 below zero mark and there probably will be blizzards—we should be back in six weeks."

The way the schedule shapes up, a group of Seabees will then take over from the Bursey team.

They will follow the flags all the way. There they will construct a scientific station at which twenty-five men will winter during 1957 and 1958. During that period they will be making all sorts of scientific observations in connection with United States participation in the International Geophysical Year 1957-58.



POLAR TREK PLANNED: A United States group will blaze a trail (solid line) from Little America to a position (cross) in Marie Byrd Land.

For Commander Bursey, this journey to the Antarctic is a return to his old stamping grounds. He originally went south with Admiral Byrd's first expedition of 1928-30 and again with his 1939-1940 expedition.

"I drove a dogsled team for the Admiral the first time down there," Commander Bursey recalled. "Now we will be using snow-cats and weasels."

DEAD SEALS LITTER A BAY IN ANTARCTIC

LONDON, Nov. 18—A bay in the Weddell Sea region of the Antarctic is littered with the bodies of about 2,000 dead seals that have been killed by disease or a volcanic explosion.

This news has been received by the British Colonial Office from a party of four men who have been exploring the high plateau of British Palmer Peninsula on behalf of the Falkland Islands Dependencies Survey.

The men, under Major William Ellery Anderson, a former paratrooper, left their base at Hope Bay on the northern tip of the peninsula several weeks ago. With the aid of dog teams they traveled south down the eastern or Weddell Sea coast in an atempt to find a way onto the central plateau.

The central area is pierced by high volcanic peaks.

During a journey of 900 miles they found what they have described by cable as "an easy route" up the Richtofen Glacier onto the highland. After achieving a height of about 7,000 feet they sledged down to an unnamed bay on the Weddell Sea just above the Antarctic Circle. The broken pack ice, they found, was dotted wih dead seals.

WHALERS EXPECT SHORTER SEASON

Low Limit of Kills and Rise in Fleets Will Speed Up Action in Antarctic

CAPETOWN, South Africa, Nov. 12 (Reuters) — Nineteen whaling fleets from half a dozen countries are getting ready for the new Antarctic summer catching season. It promises to be one of the shortest and most competitive in whale oil history.

Many more fast ships are being sent to the Antarctic this season to hunt a limited number of whales for the big factory ships that mother the fishing fleets.

Seventeen nations of the International Whaling Commission have set a new low limit of 15,000 blue whale units as the maximum for the next season's haul. This limit was ordered to check the diminishing of the numbers of whales in the Antarctic after scientists had warned that annual catches were more than the whales' reproduction rate.

Blue whale units are the mathematics of Antarctic whaling expeditions. One unit represents a blue whale or two fin whales or two and a half humpbacked whales. All fleets report their catches from day-to-day to the International Authority by radio and the season ends the moment the seasonal limit has been killed.

Britain, Norway, the Netherlands, Japan, the Soviet Union and South Africa will be competing against each other again this season for all they can get of the 15,000 units as whale oil is eagerly sought for modern industry. The Greek-owned Onassis whaling fleet, sailing under the flag of Panama, also will be there.

Norway, home of most of the skilled gunners in today's Antarctic expeditions, is sending more ships than any other country—nine separate fleets. Britain has three fleets, Japan three and the Soviet Union, the Netherlands and South Africa one each.

Norway's expeditions will be equipped this year with 109 swift catchers, the fast, trawler-like vessels that scout the whale packs, harpoon them and deliver them to their escorting factory ships. Last season, Norwegians had 101 catchers. British and South African fleets will be served by a total of fifty-nine catchers, six more than last season.

The killing season opens in January. The 1955 season lasted from Jan. 2 to March 18. More catchers chasing fewer whales probably will cut the coming season shorter.

Every season new mechanical aids are fitted to help whaling masters and gunners to do their jobs faster. Electronic spotters are to be used this season by British and Norwegian fleets. Three factory ships will carry spotter helicopters to scout the whales. Several British catchers will carry new electric harpoons for "instant death" killings as well as the standard explosive harpoons.

At this year's meeting in Moscow of the International Whaling Commission, Norway proposed that an independent observer of another nationality should travel in every factory ship to see that there were no infringements of whale-catching regulations.

There was no time for this to be approved for the present season, but independent observers are expected to join the fleets of the 1956-57 season. They would check on the right times and periods used for whaling and guard against the killing of forbidden or undersize whales.

Baptize Officer In Antarctic

WASHINGTON, Dec. 26 (U.P.)—A thirty-seven-year-old Navy chief petty officer has been baptized into the Roman Catholic faith in what is believed to be the only such ceremony ever performed within the Antarctic Circle.

The ceremony was performed aboard the cargo ship U. S. S. Wyandot, bound for the Antarctic. Charles M. Salton, a native of Hialeah, Fla., whose wife and three children already are Catholics, became a Catholic in the ceremony sponsored by seven of his fellow chief petty officers.

1956-57 Whale Kill to Be Cut

MOSCOW, July 24 (UP)—The Conference of the International Whaling Commission, with seventeen countries participating, closed yesterday. Informed sources said the conference agreed to reduce the kill from 15,500 blue whales to 14,500 in the 1956-57 season.

'Factories' in the Antarctic

OSLO (Canadian Press)—Nine Norwegian "floating factories" will accompany about 110 catcher vessels for the 1956 whaling season in the Antarctic. The factory ships run between 20,000 and 25,000 tons.

Scientists of World to Conduct Gigantic Quest for Knowledge

ATLANTA, Dec. 27.—The international geophysical year, which starts July 1, 1957, and continues for eighteen months, is shaping up as the greatest scientific assault ever made on the secrets of land, sea and air.

The vast arrangements of hundreds of observation stations in finding out more about man's environment, was described today in the first of three symposiums on the subject at the 122d meeting of the American Association for the Advancement of Science.

In today's session, scientists described how the forty-four nations co-operating in the project will explore the oceans, glaciers, ice fields, earthquakes, gravity, weather, cosmic rays and the mysterious northern lights for clues to their origin and effect on man.

Dr. Lloyd V. Berkner, president of Associated Universities, Inc., and vice-president of the special committee for the I. G. Y., pointed out that observations will be made in at least eleven of geo-physics, the science that treats of the physics of the planet Earth.

A world-wide network of radio communications will be established over which measurements taken on the various natural phenomena will be transmitted, he said. The communications system will also be used to alert all the stations on special World Days, when natural phenomena are expected to be particularly interesting. These will be predicted in advance by chains of globe-circling observation stations which will keep a steady watch on the great storms on the surface of the sun, known as sun spots. These sun spots are known to have a special effect on magnetic and electrical phenomena in the atmosphere and on earth.

In addition to the special World Days, there will be regular World Days, in which all the stations will take continuous measurements of magnetic, gravitational and auroral (northern lights and southern lights) phenomena. There will also be in December, 1957, and June and December, 1958, world meteorological intervals in which large amounts of weather data will be gathered.

The Antarctic will be in for intense observation, particularly to determine, Dr. Berkner said if that "great continent" is really a collection of islands laid over with a thick veneer of ice or a continent with a thin ice cover. Twelve nations are going to put bases down there.

The United States will have six bases in Antarctica, one of them at the South Pole.

WASHINGTON (AP).—The first clear picture of how man stands in his war with elements should begin to emerge in the next few years.

This will occur when scientists start evaluating information obtained during the 1957-'58 International Geophysical Year, which will mark the most ambitious study of the earth ever attempted.

Through the efforts of many, scientists hope to learn whether coastal cities are in danger of being claimed by the sea, whether another Ice Age portends, and whether fruitful plains may turn into deserts.

The Geophysical Year is a co-operative project of thirty-eight nations, including Russia and the United States. It was organized by the International Council of Scientific Unions.

Participating scientists will range all over the world and its oceans, from pole to pole. They will even launch earth satellites to get information which may open space between the planets to exploration by man.

The study does not start formally until July 1, 1957, and it is scheduled to continue through 1958. Actually, however, millions of dollars and thousands of scientists already have been committed, and many projects already are under way. One such scientist is Hugh Odishaw, secretary of the committee co-ordinating the United States program.

Out of all the data, Mr. Odishaw said, should come clews to whether the world's glaciers and ice caps are in a long-term melting phase. If they should melt completely, the oceans would rise perhaps as much as 200 feet, inundating great areas of the continents and submerging cities like New York, London and Paris.

Most of the earth's glaciers appear now to be retreating. Their released water is lifting the level of the seas about 2.5 inches a century. But 10,000 years ago miles-thick glaciers covered 32 per cent of the planet's surface, driving life toward the equator.

They could come again, since only slight changes in snow fall, melting, and other weather patterns govern their advance or retreat.

To get information on what to expect, eight nations will send expeditions to Antarctica to study that 5,600,000-square mile continent's little known ice sheet.

The Antarctic ice, accounting for 86 per cent of the earth's remaining glacial cover, spreads over an area one and one-third times larger than the United States and its territories.

WASHINGTON, (AP) — Scientists of 40 nations are quietly prepairing to use the world as their laboratory in mankind's greatest single quest for knowledge.

For all practical purposes the world will become a single state for the scientists. In the exchange of information there will be no political subdivisions, no Iron Curtains. Russia and the United States will work on the same continent—Antarctica—and swap notes.

Somewhere down in the Antarctic, near where Marie Byrd Land meets the Ellsworth Plateau, something happens weatherwise which affects the air currents encircling the globe. Is this the birthplace of storms?

It is toward such answers that the scientists are working in the International Geophysical Year (I.G.Y.)

The answers will not come cheap. The American effort alone will cost millions in public and private funds. Congress already has authorized 12 million dollars for the I.G.Y.

In the 18 months July 1, 1957, to January 1, 1958, the scientists will study solar activity, longitude and latitude, glaciology, oceanography, geomagnetism, aurora and air glow, ionosphere physics, seismology, gravity, cosmic rays and the upper atmosphere.

The American activity will be in all these fields and is being coordinated by the National Academy of Sciences, a private institution. The academy has obtained federal funds through the National Science Foundation, the federal agency responsible for federally sponsored basic research.

The I.G.Y. is not the first international scientific effort. There have been two smaller ones known as the first and second International Polar years of 1882-83 and 1932-33. They were organized for Arctic observations in the fields of magnetism, meteorology and the aurora.

The current effort began with a discussion in 1950 at a meeting of the Joint Commission on the Ionosphere in Brussels. The proposal for I.G.Y. was submitted subsequently to the executive board of the International Council of Scientific Unions.

Since that time government after government has signified its willingness to participate and, in fact, plans have progressed rapidly. Already the United States has undertaken one preliminary voyage to the Antarctic and another is now under way.

Danes Will Open Mine in Arctic

By Science Sservice.

COPENHAGEN, Aug. 5.—In the frozen no-man's land of East Greenland, a Danish company is preparing to open a lead and zinc mine, 140 miles north of the Arctic Circle.

The average annual temperature in this region is 16 degrees Fahrenheit, and winter storms often cover the land with 15 feet of snow. In spite of all obstacles, the mining company plans to open the mine by the spring of 1956. Preparation was begun in 1952.

A mining town, Mesters Vig, has been built near the mine. The people who live there are the only inhabitants for hundreds of miles. The town has been specially built, with a central plant to heat all the homes.

The water for the mine's operation will be pumped through electrically heated pipes from a river. Heated pipes were necessary because the ground stays permanently frozen for hundreds of feet below the surface.

Shipment by boat is blocked during 10 months of the year because the coastal waters freeze over, so the company built an air strip so mail, supplies and spare parts could be landed.

The company will soon begin blasting into the side of the mountain to be mined. In rooms cut out of the mountain in this way, the valuable concentrates will be separated from the rest of the ore. Natural insulation from the mountain plus the heat from the machinery will keep these rooms at a fairly comfortable temperature.

CARGO SHIPS FIGHT ARCTIC ICE PACKS

Some Are Stuck Off Alaska Coast on Way to Supply Radar Defense Outposts

WASHINGTON, Sept. 10—Navy headquarters announced this week that the Military Sea Transportation Service was winning its battle with Arctic ice to land cargo for the Distant Early Warning Line. The line is a chain of radar stations being built across the roof of the continent.

More than 500,000 tons of cargo has been unloaded along a 400-mile stretch of Alaska between Point Barrow and Mackenzie Bay. The operation is using 123 ships, including eight Navy, Coast Guard and Canadian icebreakers. It is being carried out largely in uncharted waters and in foul polar weather against the handicap of shifting ice.

Vice Admiral Francis C. Denebrink, M. S. T. S. commander, returned here this week from the Arctic for the third time after a flight from Point Barrow. He reported that three-fourths of the operation had been completed.

ANCHORAGE, Alaska, Sept. 14 (UP)—A fifty-ship military transport fleet fought to break through ice packs in the Arctic today to deliver cargo to outposts of the early-warning radar line.

The Military Sea Transport Service said "a couple" of the ships were stuck off the Alaska coast.

"However, there should be no great cause for alarm," it added. "We expect to free those vessels." It described the passage as a "normal, never-ending risk."

The service said it expected all ships to suffer some damage from the ice pack. Most of the damage is confined to hulls and propellors, it explained, adding that the ships are being kept seaworthy by the fleet's repair facilities.

The Navy icebreakers Staten Island and Burton Island, and the Coast Guard icebreakers Northwind and Storis are on hand to clear waterways for the trapped ships, officials said.

WASHINGTON, Sept. 15 (UP)—The Navy said today it would not abandon any of the ships batling their way through heavy ice to carry supplies and equipment to the new Arctic radar station line and other outposts.

Asked about reports from Point Barrow, Alaska, that some ships might be sacrificed, the Navy replied, "no emergency exists," and "there is no idea of abandoning" the ships.

Ice conditions are bad this year, the Navy said, explaining that the Arctic pack usually receded for a few weeks in late summer from the north coastal areas of Alaska. This year perverse winds pushed the ice back and forth.

The fifty-ship armada involved in the supply operation has gone through uncharted waters. The Navy said the ships had moved through with the aid of underwater demolition teams, icebreakers and hastily prepared charts.

U.S. Fleet in Arctic Safely Through Ice

By the Associated Press

Seattle

A Navy officer said all 58 ships of the fleet that sailed north of Alaska with cargoes for the Arctic radar network are escaping the dangerous threat of Arctic ocean ice.

Lt. Comdr. Robert F. Hopkins made the report after his arrival here on the survey ship Requisite.

All the ships now are safely west of Point Barrow, northernmost tip of North America, on their return trip, he said. The ice knocked holes in four ships and took out the rudder of another, but all were able to proceed, he added.

Heavyweights in the Arctic

A large Kodiak bear weighs around 500 pounds, a polar bear around 1,100 pounds.

2 SHIPS DAMAGED ON ARCTIC MISSION

Navy Tugs Take InTow Craft Crippled by Ice in Carrying Supplies for Radar Line

WASHINGTON, Sept. 16 (UP)—The Navy said today that two cargo ships, crippled in a struggle with Arctic ice, were under tow of Navy tugs off the coast of Alaska.

The two ships are part of a 125-ship fleet carying 500,000 tons of supplies and equipment to Arctic outposts, including the new Distant Early Warning [DEW] radar system.

The cargo carrier U. S. S. Andromeda suffered a broken rudder stock and is under tow in the Point Barrow area, the Navy said. The Military Sea Transportation Service Cargo Ship, S. S. Miller, received a ten-foot gash in her hull and her engine room was flooded. She is under tow 100 miles east of Point Barrow.

At one time fifty-two ships were operating at Point Barrow and eastward through Shepherd's Bay.

"Ships in the Point Barrow area have been almost continuously hampered by fierce winds, fog, poor visibility and ice," the Navy reported.

Most of the ships supplying the western and central sectors of the operation are gathered in the Point Barrow area preparatory to returning home. First ship due back is the Requisite, a survey ship, scheduled to reach Seattle about Sept. 20, the Navy said.

About 95 per cent of the supplies in the western and central segments have been successfully unloaded, it was declared.

Lesson From Eskimos

BARTER ISLAND, Alaska, Sept. 16 (AP)—Unloading operations for the Navy ships that dot the northern rim of the continent in this area continued at full speed today, thanks to a lesson learned from the Eskimos.

Vessels hovering off Point Barrow had been prevented from landing cargo by piles of grounded ice that clung to the shoreline after the main pack had moved out to sea.

When the vessel North Star arrived off Barrow with the winter's supplies for the Eskimo village, the natives set to work. They blasted passages through the heavy ice with dynamite and began moving the badly needed food to shore through the openings.

The Navy observers quickly adopted the plan, blasting out new channels, as well as using, after the North Star had left, the ones provided for her.

The icepack has receded after hugging the beaches all summer. Movement of ships is still impeded, however, by small ice floes offshore.

'Frogmen' Survey Arctic for Navigable Channels

120-SHIP ARMADA CONQUERS ARCTIC

3-Month Expedition Carries 548,000 Tons of Cargo to Northern Radar Net

OTTAWA, Oct. 1 (Canadian Press)—The greatest armada in the history of the North fought and deefated Arctic ice in a recently ended three-month expedition.

More than 120 ships moved 548,000 tons of cargo well inside the Arctic Circle for construction of the Distant Early Warning radar line stretching for 3,000 miles along the northern mainland rim of the continent.

Some ships were damaged in their battles with ice but none was lost.

Officials here say the operation was remarkably successful. In nearly every case, the freighters were able to get through to their planned unloading sites in the eastern and western Arctic.

The merchantmen, nearly all American, moved supplies north from San Francisco, San Diego and Seattle on the West Coast, Norfolk, Va., New York, Boston, Halifax, N. S., and Saint John, N. B., on the East Coast.

The ships made rendezvous before they reached the ice and formed up in convoys.

What happened to one of these convoys is described by Lieut. Thomas Arthur Irvine of Ottawa and Halifax, a hydrographer aboard the Canadian Navy patrol vessel Labrador. The eastern Arctic convoy was under command of Capt. O. C. S. Robertson, master of the Labrador.

"The Labrador's preliminary work of surveying a feasible route through 200 miles of uncharged and ice-covered sea was completed.

"The ice reports were not favorable but they probably wouldn't get any better until the season was too far advanced to permit the unloading schedule to be met at the delivery sites.

"The twelve-ship convoy jockeyed into position at the rendezvous point in two columns. The Labrador headed one column and a space was left at the head of the other for the United States Navy icebreaker Edisto, which joined later in the day.

"The ships were in open water —the ice was yet to be met— and it was a most impressive sight, made even more so for her crew by the fact that the Labrador was the only Canadian ship taking part and that the freighters, dutifully steaming along astern, were relying on the Labrador and Edisto to get them to their unloading sites and back again through some 200 miles of ice.

"As night fell — twenty-four hour daylight having left us some time ago—the ships switched on their running lights and the illusion that we were back in the dark North Atlantic days of 1942 was over.

"The convoy met its first scattered ice the following morning and there was a noticeable slowing down on the part of the merchant ships. A merchant ship's hull is a thin-skinned proposition compared to the Labrador's tough, high-tensile steel plating.

"They were obviously doing the best they could and it would take a day or so for them to get over the initial shock of forcing their ships through this new medium, fifteen to twenty miles each day being a good average and sometimes as little as nine miles.

"At night the convoy stopped but an unfavorable current was found to be setting the ships back to the southward and there was nothing for it but to keep moving ahead during the dark hours.

"As down broke, the Labrador would get under way and chase up the stragglers and eventually get back to the head of her column to take position ahead of the leading freighter. The first ice reconnaissance of the day would be airborne by 6 A. M. and half an hour later the helicopter would be back on board with information as to the best courses to steer and the ice concentrations to be negotiated ahead of the ship.

"Eight days after leaving the rendezvous, the leading ships broke into open water some thirty miles from the first unloading site and, apart from a few reports of minor hull damage, the freighters had come through their ice-breaking ordeal extremely well. Preparation for unloading began as soon as all the merchant ships were safely anchored."

Army to Build 50 Arctic Radar Stations To Fill Gap in Air Raid Warning Network

WASHINGTON, Aug. 16 (UP) —The Army disclosed today that troops now heading toward the Arctic frontier would build more than fifty radar stations as part of the North American air raid warning network.

It was the first indication of the number of locations planned for the Distant Early Warning (D. E. W.) line, a joint United States-Canadian project designed to give four to six hours' warning of the approach of bombers over the North Polar regions.

Seven radar stations already are operating in the American segment of the line along the north coast of Alaska. Others are functioning in Greenland at the opposite end of the net.

The work now beginning is to fill in the big gap in the 3,000-mile network across northern Canada. The United States is paying for the entire project.

Two other radar warning lines across the northern United States border and Canada are now either in operation or are being built.

The Army said two task forces with a total of 3,000 men, specially trained for the job, would unload more than 200,000 tons of construction material and supplies along the Arctic coastline. The work must be completed by late September before polar ice makes further navigation impossible.

One force left Seattle last month and soon will pass Point Barrow, Alaska, headed toward Canada's central Arctic areas. Another force, broken into two groups, is operating along the coast of Baffin Island and northeastern Canada. It sailed from Norfolk, Va.

The Navy, in a recent announcement, described the northern movement as the largest Arctic operation ever staged. It involves 117 ships carrying supplies for the D. E. W. line as well as for Alaskan and Greenland air bases.

The Army said it was using 37,000 tons of cranes, bulldozers, fork lift trucks, landing craft and special cargo-handling equipment.

The troops were drawn from the Transportation Corps, Engineers, Quartermaster and Chemical Corps. During daylight hours in the Arctic summer temperatures will average about 30 degrees and the men will be exposed to icebergs, pack ice, fogs and possibly Arctic cyclones.

U.S. and Canada to Hold Joint Air Defense Test

WASHINGTON, Oct. 18 (AP) —The United States and Canada announced simultaneously today plans to conduct joint air defense exercises this winter.

The Defense Department designated the operation as Cracker Jack. It said that the exercises would involve the air defense systems in both countries, presumably including the distant early warning radar line now under construction near the Arctic Circle.

The purpose of the exercise is to provide radar tracking and intercept practice for defense forces during winter weather. Bombers of the United States Strategic Air Command will be used to test the defenses. No date for the beginning of the exercise has been announced.

Party Surveys Arctic Islands

Ottawa, Oct. 1—(BUP-CP)—Petroleum, coal and other mineral possibilities in the Arctic islands of Canada need only financial exploitation to become a reality, Dr. Y. O. Fortier said here today after a five-month geological survey of the Canadian Arctic. It was the biggest survey of its type ever undertaken.

"The Canadian Arctic abounds in a wealth of coal and oil deposits," he said. "The thing is, are they commercially possible to the nation?"

The gaunt, 40-year-old veteran Arctic explorer said his team of 11 senior geologists and 10 students mapped and surveyed 120,000 square miles of the polar region.

"We discovered a lot of things during our exploration," he said. "One of them was that petroleum and mineral possibilities in the Arctic islands of Canada are almost astronomical: I think the government will finance another trip that will dwarf anything of the kind ever before attempted."

The entire operation was airborne. An advance party took off from Ottawa in a DC-3 and established bases.

The main party left Ottawa later. They travelled to within 600 miles of the Pole, filed reports on coal outcroppings and surveyed the area by magnetometer for oil.

The instrument, dragged across the skies showed the lows and highs of rock strata on both land and sea.

"We found substantial areas of coal," the Ottawa geologist said. "However, I cannot say just how good the coal is until we have put it to a series of tests. We also struck areas that presented very favorable conditions for the drilling of oil."

He said, however, that while coal and oil conditions were extremely favorable in the far north, he would not forecast their commercial values.

"We went into the north on a mapping expedition, and frankly, our coal and oil findings are something we were not given to consider at any length," he said. "Just let us say that our tour of the Arctic has shown that Canada has very, very substantial reserves of coal and oil there."

He said they noted hundreds of square miles of gypsum deposits north and east of the big year-round RCAF base at Resolute, on Cornwallis island, the main base for the operation. Some three tons of samples brought back still have to be analyzed to gain more knowledge of what minerals may lie in Canada's northern islands.

Fortier indicated that he had a tremendous amount of data about Canada's Arctic regions. "Eventually," he said, "all of it will be made known."

19 TEAMS TO STUDY REGIONS IN ARCTIC

Wider Knowledge of Northern Phenomena to Be Sought in Summer Projects

Nineteen Arctic research teams will poke into Alaskan and Canadian water, air and surface phenomena this summer. Two other teams are preparing for winter studies.

The projects that will be undertaken, or have already begun, were listed July 8 by the Arctic Institute of North America, the sponsor of the studies.

The institute is financing its ninth field season with grants from the Office of Naval Research, the Sir Frederick Banting Fund and private contributors.

The purpose of the research projects is to add to scientific knowledge of the northern regions. The findings will be published in professional journals or in the institute magazine Arctic.

Seven of the projects will be based at the Arctic Research Laboratory of the Office of Naval Research at Point Barrow, Alaska. Others will operate in scattered areas of the territory and in northern Canada.

Albert M. Day of Washington will begin a study of factors affecting migratory waterfowl in North America. A search for Cretaceaus Age insects embedded in amber in Alaska will be undertaken by Dr. Robert L. Usinger, an entomologist of the University of California.

Mrs. George E. MacGinitie of the California Institute of Technology, the only woman who will take part in the studies, will document field work she has done in Alaska. She will work at the United States National Museum in Washington.

Dr. C. T. Elvey, director of the Geophysical Institute, College, Alaska, will study possible relationships between appearance of radio waves from outer space and periodic "blackouts" of radio transmission in the polar regions.

Aspects of flora and fauna peculiar to the region will be studied in areas from Labrador to the Colville and Canning Rivers in Alaska by the following:

D. V. Ellis, zoologist of McGill University.

Dr. B. Elwood Montgomery, entomologist of Purdue University.

Dr. Roland M. Nardone, biologist of Catholic University of America.

Dr. Frank A. Pitelka, zoologist of University of California.

Edward B. Reed, zoologist of Colorado A & M College.

Dr. Royal E. Shanks, botanist of University of Tennessee.

Dr. Robert W. Wilce, botanist of University of Michigan.

Dr. Norman J. Wilimovsky, zoologist of Stanford University.

Glacial and geologic studies will be done by Richard C. Hubley of University of Washington, Donald G. MacVicar Jr. of Yale University and Dr. Lawrence E. Nielsen of Springfield, Mass.

Others, who will engage in special projects, are Dr. William L. Boyd, the University of Georgia; Dr. J. Lockwood Chamberlin, West Chester, Pa.; Dr. Calvin J. Heusser, American Geographical Society; Dr. E. O. Hohn, University of Alberta; G. Carleton Ray, Rutgers University; Dr. Per F. Scholander, Woods Hole Oceanographic Institution, and Dr. John C. F. Tedrow, Rutgers.

Arctic Ice Island Tells Its Secrets

By Robert C. Cowen
Natural Science Writer of The Christian Science Monitor

What can you do on an island of ice drifting lazily about in an Arctic sea?

For one thing, you can trace 5,000 years of the world's weather history by simply boring straight down into the ice. Or, if you like, you can make a study of parts of the Arctic Ocean that have never been studied before from the biggest "ship" men have ever sailed.

It was possibilities such as these that decided Albert P. Crary, research scientist with the Air Force Cambridge Research Center, to take a team of other AFCRC experts to the Arctic to spend the summer on just such an ice island, called "T-3" for official identification. Recently, returned from the summer's work, Mr. Crary told something of his experiences at an AFCRC conference in Boston.

T-3 is one of some 85 ice islands that drift in circuits about the Arctic Ocean. This particular island measures about eight by four miles and is 170 feet thick, making it about the fourth largest of the lot.

It was first used as a weather station base in early 1952 when it was only 70 miles from the pole. Since then it has drifted closer to land. This has cut its usefulness as a weather station, since permanent land-based stations nearby can now do the job. But it is still of interest to natural scientists such as Mr. Crary.

Since the Air Force first became interested in T-3 in 1952, there has been little perceptible change in area or thickness, Mr. Crary said. He explained that the island is essentially a chunk of fresh water ice that formed from rain and snow-fall on the edge of land and subsequently broke away. He identified that land as probably the northwest corner of Ellesmere Island.

Although T-3 is some 5,000 years old, it broke away only within the past 20 years, Mr. Crary said. Some of these islands drift out of the Arctic and are lost to warmer regions. But this one has circled around a 300-mile circuit, that takes some 10 to 12 years to complete, and is at the moment back near the place it started.

Studying T-3 is like looking through a concentrated record of the world's climate for the past 5,000 years, Mr. Crary said. The record is there, preserved in the depths of the ice, in better form than most other regions of the Arctic.

The Greenland ice cap, for example, being wholly on land simply buries this record under a heavy burden of very thick ice. T-3, by contrast, has been built of thin, much more concentrated layers.

What was it like living on T-3? "Well," Mr. Crary said, "it was not bad, not so bad. It didn't hit more than 10 below all summer." However, he conceded with a smile that in winter you had to slow down a bit when the temperature reached minus 60 degrees or so.

Soviet natural scientists, also, are interested in the Arctic region. Mr. Crary credited them with a greater knowledge of the area than probably anyone else possesses.

They have a greater interest in it because of their vast Arctic territories, he explained. He implied that this is probably the main reason for their work, rather than primarily military considerations, although these cannot be completely discounted.

Among other things, Soviet researchers have found a mountainous ridge running across the Arctic Ocean bottom and have theorized that this ocean may be very similar to the rough-hewn Mediterranean basin. Mr. Crary said that he thinks the Soviet ideas about the Arctic are well-founded.

Explorer Finds Houses Of Old Arctic Tribe

WASHINGTON, Oct. 16 (UP) —The Smithsonian Institution announced today that one of its archeologists has discovered big roofless stone houses of the mysterious Dorset people on Walrus Island in the Canadian Arctic.

The institution said Dr. Henry B. Collins found the dwellings during a side trip from his expedition's main base on Southampton Island last summer. The expedition had been excavating the site on one of the oldest known Dorset settlements

The institution said, however, that the houses were so well preserved that they could hardly be more than several hundred years old, and probably were the most recent remains of the civilization ever found.

Little has been known of the Dorset people's dwellings or manner of living.

EXPERTS IN ARCTIC FORECAST WEATHER

EDMONTON, Alberta (Canadian Press)—Eight men here receive coded messages from Russia four times a day, but there is nothing myserious about their job. They are the Arctic weather team of the Department of Transport Meteorological Services.

Four forecasters and four assistants compile polar weather data received daily from reporting stations in Russia, Manchuria, Japan, Alaska, the Scandinavian nations and many parts of Europe. The information is plotted on polar maps to forecast Arctic weather trends.

Since trans-polar routes have become important in world air transportation the team's work is invaluable. In addition to military flights, the "Arctic passage" is to be used regularly by Canadian Pacific Airlines' Vancouver-Amsterdam service and has been used for some time by Scandinavian Airlines' Los Angeles-Stockholm flights.

All forecasters in the team have Master of Science degrees and have done graduate work in physics. They prepare forecasts four times a day.

One of the team's maps, with the North Pole at the center, shows small dots representing weather stations. On the Siberian section are many stations; providing "better Arctic coverage than any other country," said one of the experts.

Planes Sent For Stranded Eskimos

OTTAWA, Sept. 10 (CP).—Three planes have been sent to Povungnituk, on the east coast of Hudson Bay, to take on eighty-five Eskimos stranded there when their ship broke down en route to a hospital at Moosonee, Ont.

The Eskimos, forty-nine of them children, are believed to be in need of treatment for tuberculosis. They were gathered from isolated settlements in Ungava for the trip to Moosonee, which is 600 miles to the south, at the end of James Bay.

NEW ASIAN LINKS FOUND IN CANADA

Traces of Nine Civilizations Discovered Near Alaska Among 8,000 Artifacts

OTTAWA, Oct. 14—The theory that North America's earliest populations migrated from Asia across the Bering Strait has gained added weight with the discovery of traces of nine extinct civilizations in the Canadian North.

The finds, which were made last summer on the banks of the Firth River just east of the Alaska border, were announced today by Jean Lesage, Northern Affairs Minister. He described them as "one of the most significant archaeological discoveries ever made in Canada."

Many of the 8,000 articles found were similar to relics discovered in Eastern Siberia and other parts of Asia. Of the traces of the nine civilizations four had not been known in North America, and there are indications that one may have been the oldest known to have existed anywhere in the North.

The discovery was made by a group led by Dr. Richard S. MacNeish, chief archaeologist of the National Museum. In tha group were Mrs. MacNeish, an ethnologist; a student from Iraq, and eight Eskimos.

Dr. MacNeish said the site had been "a sort of Grand Central Station of the North." Groups of peoples migrating across the northern wastes stopped off there for varying periods, he added. The most interesting finds were made in the permafrost, the permanently frozen ground of the Arctic.

"We had found a number of implements belonging to the oldest civilization known to have existed in northern North America," Dr. MacNeish said.

"Then under a layer of clay several inches below these artifacts, we found ten exceedingly crude stone implements obviously from an even earlier civilization."

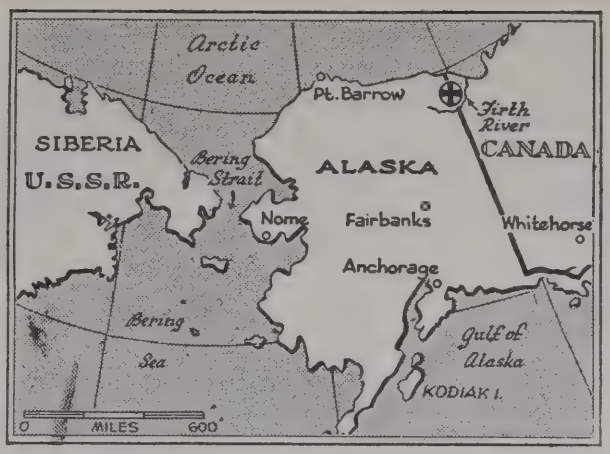
Most of the implements were of bone and stone. They were scrapers, arrowheads and flakers. A considerable quantity of early pottery, which appears to be connected with Siberian cultures of 3,000 and 5,000 years ago, was also unearthed.

According to Mr. Lesage, many of the artifacts "would seem to give further substantial evidence that there was a considerable influx of people and ideas from Eastern Asia to this continent via the Bering Strait."

The finds will undergo a series of carbon tests. These will give a more exact indication of their age.

When bone or wood grows in nature it builds carbon dioxide from the atmosphere into solid carbon compounds. This built-in carbon dioxide contains a small amount of radioactive carbon, which disintegrates at a fixed rate so that half any quantity is still present after about 6,000 years.

The decrease in the ratio of radioactive carbon to ordinary carbon in material that was once living can be measured by the use of a Geiger-Mueller, or scintillation radiation detector. This is found to give a good index of the age when the material grew.



EARLY MIGRATION TRACED: Ancient bone and stone implements found on the Firth River (cross) support a theory that the first Americans came from Siberia.

ESKIMO A GOURMET

Manitoba Natives Described as Connoisseurs of Strange Food

WINNIPEG, Man. (Canadian Press)—The coastal Eskimo is somewhat of a connoisseur of food in the far north. His diet, strange to the white man, ranges far beyond the commonly accepted raw meat and whale blubber.

The chief medical officer and regional superintendent of Indian Health Services, says some of the typical Eskimo dishes include an arctic salad of partly digested shell fish in the stomach of a walrus, a main course of walrus brisket, or a side dish of fermented ptarmigan, the Baffin Land equivalent of Roquefort cheese.

After that the Eskimo is liable to wash it all down with fermented seal oil, a more digestible and palatable drink than fresh seal oil.

There is no salt in the Eskimo diet, yet they have suffered no ill-effects, it is said.

Another point of interest to the white man is that the Eskimo never uses a tooth-brush. Yet dental decay is virtually non-existent. The only tooth trouble occurs with Eskimo women who wear their teeth down by chewing hides to soften them.

Insect Mummies Found; 60,000,000 Years Old

MONTREAL, Nov. 8 (UP)—The Arctic Institute of North America disclosed today that mummified insect specimens, 60,000,000 years old and still in a "fine state of preservation," have been discovered in Alaska, 150 miles above the Arctic Circle.

The find was made by two United States entomology professors from the University of California, Dr. Robert L. Usinger and Dr. R. F. Smith, in a search sponsored by the institute.

"Although fossil impressions of older insects exist, the mummified Alaskan animalcules (microscopic animals) are believed to be many millions of years older than any other actual insect specimens extant," the institute said.

The specimens were found embedded in amber last summer in the Colville River Valley and along the Kuk River, on the northern slope of the Brooks Range.

ESKIMO TRACED BACK TO ARCTIC STONE AGE

HANOVER, N. H. (Canadian Press) — A 30-pound sack of stones from Canada's far north may contain evidence of the culture of the Cape Dorset Eskimos, among the most ancient Eskimo peoples to inhabit the Arctic.

The stones were brought here by a Dartmouth College anthropologist, who has just returned from the Arctic.

They are not ordinary stones. They are flint spear points, arrow heads, scraping and cutting tools and chips left behind as long as 2,000 years ago in the campsites of stone-age aborigines.

During an eight-week expedition ancient Eskimo habitation sites were sought in the vicinity of Coronation Gulf, Dismal Lakes and Bathurst Inlet on the coast of the Arctic Ocean. A vast unexplored inland region between Contwoyto Lake and the Big Bend of the Coppermine River also was covered.

The anthropological survey, it is hoped, will be extended from Newfoundland to Alaska.

Evidence of the spread of the Cape Dorset culture, or of peoples even more ancient, is sought

NEW SKILLS FOR ESKIMO

Harpoon Dropped for Hammer in Experiment in Canada

FORT CHURCHILL, Man. (Canadian Press)—Hands that once held a harpoon now clench an air hammer. Men once accustomed to hunt the seal now strain over a carpenter's workbench. Once primitive people now are working in a white man's world.

A group of Eskimos are taking part in an experiment being conducted by the Federal Government's Northern Affairs Department at this military base, 610 miles north of Winnipeg.

Officials here are elated with its success so far.

The technical officer in the works department said the natives did "very good" work.

Seven Eskimo families, as well as two young bachelors, were brought to Fort Churchill from Fort Chimo, a wartime United States military base on the east coast of Hudson Bay.

The men arrived here last year. Later they were joined by their families.

PLANE RIDING THE RAILS

Craft Saved From Hudson Bay Ice Is on Way Back to Jersey

WINNIPEG, Man., Sept. 17 (AP)—A four-engine aircraft, written off as a total loss last May after it had made an emergency landing on a Hudson Bay ice floe but salvaged two months later, was taken through Winnipeg on railway cars Friday en route to its home base at Wildwood, N. J.

An official of United States Overseas Airlines, owners of the plane, said it would fly again after repair.

The shipment was loaded on five flatcars. The wings, tail assembly, engines and propellers were dismantled to allow for rail clearance. The eighty-seven-foot fuselage was cradled on two flatcars.

The aircraft ran out of fuel while transporting supplies for the Distant Early Warning (DEW) radar line project in northern Canada.

MONSTER ICEBERG SEEN NEAR THULE

Coast Guard Crew, Ending 'Routine' Arctic Trip, Tells of Unusual Sight

The granddaddy of all Arctic icebergs—a monster measuring three quarters of a mile by half a mile, and 650 feet thick—was observed in Melville Bay, near Thule, Greenland, by the Coast Guard icebreaker Westwind.

Capt. Henry G. Stolfi, commanding the craft that returned Oct. 10 from a five-month supply mission in northern waters, described the giant berg as the largest of the season. He added that in contrast to the ordinarily jagged and mountainous shape of Arctic bergs, this specimen, which dwarfed his 270-foot ship, was as flat as a table top. About one eighth of a berg, in this case eighty feet, shows above water.

Also aboard the Westwind was Clyde, a three-month-old white Eskimo sled dog with a high-pitched whine that could be heard all over the ship.

Clyde, who has a brown face and brown ears, was acquired by the ship's crew for two cartons of cigarettes at a Hudson's Bay Company post at Clyde River, Northwest Territory. He has been officially designated as the ship's mascot. Up to now he has had the run of all decks, and as soon as he has been properly educated he will be admitted inside. When fully grown he is expected to stand two and a half feet and weight about eighty pounds.

The Westwind's 20,000-mile voyage to Arctic waters was described as a "routine" trip by Captain Stolfi. He explained that his ship was one of several icebreakers assigned to facilitate the work of a 126-ship fleet assigned to the Navy to supply outlying bases near the Arctic Circle on both sides of the continent.

Weather conditions up North, he said, were of the usual "foul" variety. The temperature, even during the height of the Arctic summer, never rose above 44 degrees Fahrenheit.

POLAR EXPEDITION SET

Navy to Gather Weather Data by Balloons and Rockets

WASHINGTON, Sept. 16 (UP) —Navy scientists will launch balloons and rockets at the North Pole late this month in a resumption of their eight-year-study of cosmic and weather phenomena, it was announced today.

The Navy ship Ashland will leave Norfolk, Va., early next week bearing a group of naval and civilian scientists to the seas off North Greenland in the vicinity of the North geomagnetic pole.

Rockets crammed with instruments will be fired from high-altitude balloons to gather data. Other data will be collected by balloons.

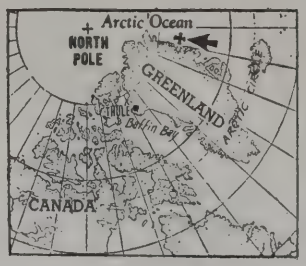
Danish Skipper Has to Quit Ice-Bound Ship After 6 Days

ST. JOHN'S, Newfoundland, Sept. 14 (AP).—A Danish captain who stayed with his ice-bound ship in one of the high traditions of the sea finally had to abandon his vessel, a sealer, today after a six-day fight to save it.

A United States Air Force spokesman said ice was expected to crush the ship and sink it within the next few days.

Capt. Kurt Nakken had sayed on board the Norwegian vessel, the Jopeter, with a skeleton crew after twenty-six other crewmen and passengers were rescued by helicopter Sept. 8.

Two Air Force helicopters took Capt. Nakken and his six-man skeleton crew off the doomed vessel today when he Danish



Arctic patrol vessel Kista Dan reported it was unable to reach the Jopeter to put a tow line aboard.

Both ships had drifted about eighty miles during the last thirty-six hours and were last reported south of Franz Josef Fjord, Greenland. The Kista Dan was free of the ice trap.

Army Plans Arctic Tests in Alaska

WASHINGTON, Nov. 24 (AP).—. The Army will test out in Alaska this winter its systems for supplying and equipping combat forces in an Arctic war.

It announced tonight that Exercise Moose Horn—a three-week operation in January and February—will use about 7,000 troops from the 71st Infantry Division at Fort Lewis, Wash.

A battalion combat team will journey overland up the Alaska Highway to join six other teams from Alaskan bases.

Operating in an area described as the coldest on the continent, where winds hit as much as 80 miles an hour and the temperature drops as low as 65 below zero. The troops will operate across rugged country, without roads.

Among other things, the Army will test the relative merits of two types of Arctic supply—dropping material from planes and sending it overland by 10-ton tractor sleds.

The 5th Battalion Combat Team of the 5th Infantry Regiment will leave Fort Lewis on the 1,200-mile overland trip on Jan. 4 and return to Fort Lewis March 1.

CREVASSE DETECTOR TESTED IN FAR NORTH

WASHINGTON, Sept. 13 (AP) —New developments that may help man explore and live in frozen wastes of the Far North or the Antarctic subcontinent were disclosed by the Army Corps of Engineers today. They include:

¶An electronic crevasse detector and electric trail markers that make it possible to travel the ice and snow deserts safely in the long winter nights as well as by daylight.

¶The discovery that tunneling under polar ice and snow is surprisingly practical and may be a cheap and easy means of providing shelter.

¶The bare possibility that the mining of snow may some day prove to be a source of electric power.

Robert R. Philippe, chief of the corps' special engineering branch, said the crevasse detector already had been tested satisfactorily on "weasels" and other tracked vehicles moving from five to seven miles an hour. Mr. Philippe said the detector "establishes a field of vibration and picks it up ahead of the vehicle. When the field of vibration is interrupted, we know a crevasse lies ahead."

The trail markers consist of two uninsulated wires laid along each side of the route. Every thirty-five miles a battery station transmits pulses along the wires. An instrument in the vehicle traveling along the trail picks up the electrical pulses and enables the driver to stay on the path.

Glacier Marches On AF Base

By Science Service.

COLUMBUS, Ohio, Nov. 23. —The great Greenland ice cap, situated approximately 40 miles above Thule Air Force Base, is advancing very slowly.

The advance of this glacial area, whose movement is unlike most of the world's glaciers at the present time, was reported here by Dr. Richard P. Goldthwait, who headed a nine-man Ohio State University Arctic expedition last summer.

Dr. Goldthwait explained that the advance of the ice edge is the result of increased snowfall in recent years brought on by warmer weather.

The study, made some 700 miles within the Arctic Circle and about 1000 miles from the North Pole, was sponsored by the Snow, Ice and Permafrost Research Establishment of the U.S. Army Corps of Engineers.

Knowledge of glaciers' behavior is necessary for engineering or military operations in glaciated regions.

STARVING ESKIMOS AIDED

Plane Drops Food to Outpost Stripped by Polar Bears

GOOSE BAY, Labrador, Dec. 17 (AP)—The Royal Canadian Air Force has replenished supplies of an Eskimo outpost left starving by a raid of five hungry polar bears.

A plane reported it had completed a food drop yesterday to the Eskimos near Port Burwell, which is at the northeastern tip of Quebec Province. When the food was dropped, the Eskimos were living off the carcass of one of the bears they had killed while it was running off.

BAKED ALASKA MERCURY 93

FAIRBANKS, Alaska, July 26.—(AP)—The Arctic regions of Alaska are in the midst of a sizzling heat wave.

The tiny Eskimo village of Wainwright, on the Arctic ocean 90 miles southwest of Point Barrow, reported a temperature of 80 degrees yesterday.

In Fairbanks it was 147 degrees warmer yesterday than it was on the same date in December. The mercury zoomed to 93. It was 54 below zero on Christmas day.

RUSSIANS STEP UP ARCTIC SHIPMENTS

Improved Weather Forecasts a Factor in Increased Use of Sea Route to Far East

MOSCOW, Sept. 7—The Soviet Union is making increasing use of the Arctic sea route to move supplies and equipment to the Far East and Siberia.

Grain produced in the virgin lands of Western Siberia is also being exported, transported by way of the Irtysh and Ob Rivers, which flow toward the Arctic Ocean.

This was disclosed today by V. F. Burkhanov, chief of the Northern Sea Route Administration, in an interview with the scientific correspondent of the Government newspaper, Izvestia.

One Diesel-electric freighter equipped for Arctic navigation recently made a trip of more than 6,000 miles from Archangel to a port on the Sea of Okhotsk in twenty-seven days, Mr. Burkhanov said. He noted that the same voyage had required sixty-five days when the Northern Sea route was opened in 1932.

"The improvement in our weather-forecasting techniques," the official said, "has been of great importance in promoting Arctic navigation. This has been largely due to the work of our floating polar stations."

The Soviet Union is believed to be operating two polar observation stations full time.

"The Arctic sea route is now being used by many hundreds of ships to supplement the Trans-Siberian Railway in supplying Siberian and Far Eastern settlements," Mr. Burkhanov said.

"Arctic ships also go upstream on the Kolyma, Yenisei and Khatanga to supply manufactured products. On the way out they carry forest products and other exports of this region."

He added that part of this year's grain crop from the newly cultivated area around Novosibirsk would be shipped by water on the Arctic route. Special ice-cutters have been constructed to make the path through the Arctic Ocean for the shallow-draught grain ships capable of penetrating far into the interior, Mr. Burkhanov declared.

Ice conditions are "very favorable" in the Western Arctic this summer, he said, but around the Chukchi Peninsula opposite Alaska "there is heavy ice, which creates serious difficulties for cargo ships and even for ice-cutters."

Mr. Burkhanov noted that ships plying this route had been unable to maintain their schedules because of the heavy ice floes. He said loading facilities at many ports on the Northern Sea Route were inadequate or poorly utilized.

More than fifteen fishing ships, he added, passed undamaged around the Soviet Union's Arctic shoreline this year en route to the Bering Sea.

ARCTIC SEA ROUTE: Soviet vessels are making increased use of the route through the Arctic Sea (heavy line) for transporting products to the Far East.

Ellesmere Study Fears Ice Islands May Melt

MONTREAL, (CP).—The Ellesmere Island ice shelf, from which come the Artic ice islands, is in danger of melting away within the next eighty years, Geoffrey Hattersley-Smith, of the Canadian Defense Research Board, said in the latest issue of the Artic Institute of North America's quarterly journal.

The ice islands are being explored, surveyed and mapped jointly by Canada and the United States, for defense potentialities.

Mr. Hattersley-Smith, who headed a four-man expedition to Ellesmere Island in 1954, wrote that only a slight amelioration of climate would be destructive to the ice shelf.

He said that glaciers on the island are advancing. Measurements in 1954, for example, revealed that the eighty-foot terminal ice cliff of one glacier had moved forward twenty feet in a year.

The ice islands were spotted from a plane a year ago and reported to research and survey groups in Canada and the United States. A four-man team composed of A. P. Crary of the United States Air Force Cambridge Center, R. L. Christie, of the Geological Survey of Canada, E. W. Marshall, of the snow, ice and permafrost research establishment, United States Army Engineers, and Mr. Hattersley-Smith, head of the project, was assigned to explore the islands for defense purposes.

During four and a half months of research, the scientists traveled the full length of the Ellesmere ice shelf and conducted meteorological, oceanographic, geological and geographic investigations, as well as geophysical and glaciological studies.

Radio contact was made at intervals with Alert, a weather station maintained on Ellesmere Island by Canada and the United States. During the warmest part of the summer, surface melting proceeded so rapidly that heavy radio equipment had to be left behind.

A number of relics of previous expeditions were found by the expedition, which was sponsored by the Defense Research Board of Canada.

Soviet Helicopter At North Pole

LONDON, Thursday, Sept. 29 (CP).—Radio Moscow announced today that a Soviet helicopter has flown from Moscow to the North Pole.

The helicopter, an M-4, was designed by Soviet aircraft designer Mihail L. Mil, a helicopter specialist.

The broadcast, monitored here, did not give the date or other details of the flight. The distance between Moscow and the North Pole is 2,500 miles.

ARCTIC TESTS SEEK AN AERIAL ICE GAUGE

BOSTON, Dec. 16 (AP) — Air Force scientists are rushing research on a problem of growing importance to the United States and Royal Canadian Air Forces in the Arctic.

The hope to develop an airborne indicator of snow and ice thickness and strength for safe landing fields. The Air Force Cambridge Research Center said today that "the problem of safe landings and takeoffs by heavily loaded aircraft has reached major proportions," with the increasing significance of the Arctic in defense.

From now until May, scientists of the center, a unit of the Air Research and Development Command, will be setting off TNT in the far North. Helicopters will drop propectiles from various heights.

Researchers will saw out big ice beams and load them to the breakage point. They will cut out cylindrical samples of ice for testing. Ice crystals in process of growth will be studied under microscopes.

Experts from the Terrestrial Sciences Laboratory of the Geophysics Directorate, Air Force Cambridge Research Center and three other agencies will conduct seventee separate experiments in Labrador between now and spring.

HELICOPTERS TO FLY IN CANADIAN ARCTIC

VANCOUVER, B. C., Aug. 19 —The farthest north helicopter operation ever attempted is being carried out this summer over islands of the Canadian Arctic 500 miles north of Resolute Bay.

The job is a supply and transportation mission in support of the Franklin Project, a geological survey by the Department of Mines and Technical Surveys.

What is unique about the helicopters' task, according to officials of Okanagan Helicopters here, is that it is without support by fixed-wing aircraft during the expedition's season from late June until the beginning of September.

The nearest air strip is at Resolute Bay, where the Royal Canadian Air Force maintains a base. There is no ice north of there during the summer months and the helicopters do not fly over the open water.

Thus the geological expedition is dependent upon supply caches established early in the season by the helicopters, which likewise built up their own fuel dumps in the area of the survey.

Island Named for Navigator

Coats Island in Hudson Bay was named for Capt. W. Coats of the Hudson's Bay Company. He visited there as early as 1727.

Navy Ship Carries Two Tons of Philatelic Mail To Antarctica

By KENT B. STILES

AN estimated 280,000 covers, entrusted by collectors to the Navy, are presently en route to Antarctica. They will be given postal cancellations to identify them as having been close to the South Pole and will be brought back to the United States next spring to be delivered through ordinary mail channels. The covers bearing 6 cents' worth of postage will leave Norfolk, Va., by airmail; the others by surface mail.

This project comprises philatelic service voluntarily arranged by Navy's Deepfreeze Operation to the Antarctic, ushering in the Government's extensive participation in the International Geophysical Year, 1957-58.

The last of Deepfreeze Operation's cargo ships, the Wyandot, sailed from the Norfolk Naval Base at 3 P. M. on Nov. 14 precise destination unannounced but somewhere in Antarctica. In her holds she carries the philatelic mail—four tons of it. A Navy estimate is that each of the 8,000 pounds includes thirty-five ordinary-weight letters.

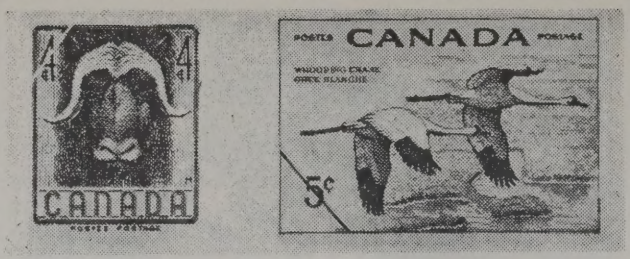
The base's postal station handling all this mail closed one hour before the Wyandot steamed from Norfolk.

Postal clerks on the ships and at Antarctica will use hand-stamps and ring dies with which they will apply one of the following inscriptions: (a) Little America, Antarctica, U.S.N.; (b) Byrd Station, Antarctica, U.S.N.; (c) Pole Station, Antarctica, U.S.N.

"Because of limited personnel and facilities in Antarctica," Mr. Summerfield added, "no guarantee will be given as to which of the three cancellations will appear on philatelic mail."

The ships of this Navy Task Force are expected to leave Antarctica next February or March and arrive in the United States in April. If space is available on the vessels, all philatelic mail cancelled in the Antarctic prior to the departure will be returned at that time. However, some of the mail may have to be held over in the Antarctic and would be returned to the United States in the spring of 1957, when the Task Force will complete its second trip of the expedition.

The cancellation hand-stamp and ring-die markers — called "killer bars" because the application of them automatically terminates the validity of the mint stamps which prepay postage—commemorate the Navy's Antarctica Expedition Deepfreeze, and they will be retired at the end of the expedition.



NEW WILDLIFE SERIES STAMPS— The four cent stamp, left, illustrates the head of a Musk-ox, now limited to a few small herds and protected by game regulations and the five cent stamp illustrates two whooping cranes in flight. Only 21 whooping cranes are known to exist and they are protected by Canadian and U.S. laws. Their nesting grounds are unknown but they migrate to Texas each Autumn.

TO ANTARCTICA

Information received from the British Crown Agents in London directs philately's attention to the fact that Falkland Islands, a British possession, will send an expedition to Antarctica in connection with International Geophysical Year, 1957-58. The Falklands adventure is expected to begin soon, and the Crown Agents say the 1-penny, 2½p, 3p and 6p of Falklands' current stamp series are being given a "Trans Antarctic Expedition 1955-58" overprint.

The stamps will be sold first at Shackleton in Antarctica and later at post offices in the Falklands and the islands which comprise the colony's dependencies, including the Palmer Archipelago and the South Shetlands.

FRENCH ANTARCTICA

New to philatelic titles is French Antarctica, the first stamp of which is a Madagascar 15-francs, with "Terres Australes et Antarctiques Francaises" overprinted in two lines of red capital letters and with a bar across "Madagascar."

France's southern and Antarctic territories, formerly dependencies of Madagascar, are cited as St. Paul, Amsterdam and Crozet Islands in the southern Indian Ocean; and Adelie Land, over which France has claimed sovereignty since 1938. Adelie's coast is part of Wilkes Land, discovered in 1839 by Charles Wilkes, American naval officer.

The overprinted Madagascar 15f is a provisional, to be followed by definitives for French Antarctica. Philately surmises it was issued to attract world attention to France's participation in the International Geophysical Year (1957-58). A French Antarctic expedition sailed southward in October. A French stamp journal suggests that a post office to be operated in Antarctica "is apparently for the great pleasure of the penguins, who constitute the only inhabitants" of the French terrain being visted.

French "Southern and Antarctic" issue, overprinted upon the 15-franc Madagascar

Approximately 25,680 covers were handled by Australia's Macquarie Island post office when the 3½d. Australian Antarctic Territory stamp had its first day sale there. Covers handled at Heard Island totaled 21,580, and at Mawson the figure was 30,936. The stamps had their first sale at Heard Island on Jan. 23, and at Mawson on Feb. 16. In the case of Macquarie Island the first date of issue was Dec. 28.

Three multi-colored stamps were issued by Russia to honor the Soviet scientific drifting station at the North Pole. Two stamps show a helicopter landing, the other a surveyor.

Since the Soviet Union only a few weeks ago opened post offices at these stations in the North Pole it seems they are staking some sort of claim to that area.

ESKIMO YOUNGSTERS MAKE APT STUDENTS

FORT CHURCHILL, Man. (Canadian Press) — Twelve brown-skinned children filed into the classrooms of the Duke of Edinburgh School at this northern military base recently and the other pupils stared.

Shyly, the twelve took their places and gazed in wonder about them. They sat stiffly in the tiny desks and listened dumbfounded to the teacher at the head of the class.

This was a whole new world to them and they could not understand.

This was part of a new experiment by the federal government's Northern Affairs Department in an effort to assimilate the Eskimo into a white man's civilization.

The department has brought seven Eskimo families to live at Fort Churchill, providing them with homes and the men with jobs in the camp.

"Our hopes will be with the children," said the Northern Affairs agent who is guiding the project. "The present generation of the Eskimo—the children's parents—will undoubtedly retain many of their old traits but we hope the children, through education, will learn and pass on their knowledge to their parents and to other Eskimos."

Since these first few days of self-consciousness, the Eskimo children have amazed their teachers with their ability to learn.

"Whalers of Foveaux Strait," a drawing by E. R. Leeming, decorates the 2p of the Southland Centennial set which New Zealand will issue in January.

MRS. PEARY DEAD; ADMIRAL'S WIDOW

Accompanied Discoverer of North Pole on 3 Voyages—Mother of 'Snow Baby'

PORTLAND, Me., Dec. 19 (AP) — Mrs. Josephine Diebitsch Peary, widow of Admiral Robert E. Peary, who discovered the North Pole in 1909, and an Arctic explorer in her own right, died today. She was 92 years old.

Mrs. Peary had been confined to her apartment since suffering a broken hip in January, 1954.

Daughter of a Professor

Mrs. Peary was generally credited with being the mother of the first white child born north of the Arctic Circle.

Mrs. Peary was born in Washington on May 22, 1863, the daughter of Herman H. Diebitsch, a professor at the Smithsonian Institution. She accompanied her husband on three voyages and made two other visits to Greenland to meet him returning from trips.

One trip, made in 1900, held several threats of disaster. The vessel on which Mrs. Peary was sailing, the Windward, collided with an iceberg, was damaged when she went aground on a reef and then was frozen in. The vessel was delayed for weeks. These experiences were drawn upon by Mrs. Peary in later years for several books.

Mrs. Peary was employed by the Government when she met the future admiral, who was beginning to make a name for himself as a naval engineer. They were married in 1888.

Mrs. Peary did not accompany her husband on his first visit to the Arctic, but went with him on his second trip in 1891. The admiral broke his leg on that voyage, but his wife nursed him for many weeks so that he was able to cross the ice glaciers in 1892, as planned.

The next year, Mrs. Peary returned to the North, and a two-room house of sorts was built for her and the explorer on Bowdoin Bay. There, in September, within 13 degrees of the Pole itself, a daughter, Marie Ahnighito, now Mrs. Edward Stafford of Washington, was born to them.

The child's middle name was that of the Eskimo woman who made Marie's first fur suit. For many years, the daughter was known in the North and in the United States as "The Snow Baby."

A summer voyage to Greenland in 1897 with her husband, the one in 1900 to meet him and another in 1902 completed Mrs. Peary's Arctic visits.

Since the death of Admiral Peary in 1920, Mrs. Peary had lived most of the time in Portland, confining herself to her family and a small circle of friends.

What might be considered her last public appearance was made on Dec. 20, 1942, when she went to Orange, Tex., to christen the destroyer, the Robert E. Peary.

Her greatest thrill, Mrs. Peary said, "was the arrival of news that her husband had discovered the North Pole." She was at the family summer home at Eagle Island, Me., when the word was received. Rock-bound Eagle Island is at the eastern end of Casco Bay and can be reached only by boat. There Admiral Peary spent much of his time between explorations.

Mrs. Peary's most cherished possession, the American flag she made for her husband, is enshrined permanently in the National Geographic Society's Explorers Hall in Washington.

During the four years Admiral Peary spent reaching the Pole, he kept the taffeta flag wrapped around his body to be sure it would not be lost. He left pieces of the flag at memorable spots in his journey. Most of these were found by later expeditions and returned to Mrs. Peary.

Besides her daughter, Mrs. Peary leaves a son, Robert E. Peary Jr.; a sister, Miss Marie Diebitsch of Washington; three grandchildren and five great grandchildren.

WASHINGTON, Dec. 27 (UP) —Mrs. Robert E. Peary, widow of the discoverer of the North Pole, was buried today in Arlington National Cemetery near the grave of her husband.

Rear Admiral Edward B. Harp Jr., Navy Chief of Chaplains, officiated at the Graveside ceremonies, which were attended by representatives of the Navy and geographical organizations.

He said it was fitting that Mrs. Peary should rest in Arlington because "her courage and devotion have achieved an honored place in our nation."

Capt. William F. Verleger

DR. HENRY W. GREIST, MEDICAL MISSIONARY

MONTICELLO, Ind., Nov. 11 —Dr. Henry W. Greist, a physician and retired medical missionary, died Wednesday night in his Monticello home. His age was 87.

For seventeen years Dr. Griest and his wife, Mollie, gave medical and spiritual aid to the Eskimos in a 1,000-mile area of barren tundra around Point Barrow, Alaska, as head of a Presbyterian hospital and mission.

Dr. Greist prepared the body of Will Rogers for the journey home after the humorist and Wiley Post were killed in a plane crash near the Arctic mission in 1935.

Mrs. Robert E. Peary and (right) in her explorer's outfit.

W. F. VERLEGER, 77, IN NAVY 33 YEARS

Retired Officer Who Served as Master of Byrd Flagship on '33 Expedition Dies

NEW CANAAN, Conn., Nov. 4—Capt. William F. Verleger, who saw service with the Navy and merchant marine from 1895 through World War II, died last night at St. Albans Naval Hospital, Queens, New York. He was 77 years old. His home had been at 190 Park Street here.

His long sea career, during which Captain Verleger had been active in both World Wars, was highlighted by his part in the Little America expedition of Admiral Richard E. Byrd in 1933. Captain Verleger was master of the Jacob Ruppert, flagship of the expedition.

His war service had earned for him a commendation from former President Harry S. Truman and five Navy Good Conduct Medals. He first saw battle aboard the battleship Iowa in eight naval engagements during the Spanish-American War in 1898.

In 1901-03 he served aboard the U. S. S. Vicksburg in the Philippine Insurrection and saw Gen. Emilio Aguinaldo, the rebel leader, brought aboard as a prisoner. He also took part in the Cuban Pacification of 1908, the Nicaragua Campaign of 1909 and the Vera Cruz, Mexico, Campaign of 1914.

In World War I, Captain Verleger was a lieutenant (j. g.) on the troopship Koninhin der Nederland and then was stationed at the Charleston, S. C., Naval Yard answering distress calls on the Eastern Coast.

Retired in 1924, Captain Verleger was returned to active duty in 1942 with the rank of full lieutenant, assigned to training reserve officers. Again retired in 1945 as a full lieutenant, he finished the war as captain of the S. S. Black Rock, a merchant-marine ship on rescue duty in European waters.

Captain Verleger, who left no survivors, will be buried in Arlington National Cemetery.

Famed Alpine Guide Killed

SONDRIO, Italy, Aug. 3 (AP)— Silvio Pedrotti, famed Alpine guide, fell to his death Wednesday while climbing in the Bernina peak range. His was the ninth Italian climbing death in three days. Signor Pedrotti, 48 years of age, was in the Italian rescue party that tried to reach the wreck of the dirigible Italia, commanded by Gen. Umberto Nobile on an Arctic flight. The blimp crashed May 25, 1928, with a loss of seven lives.

"John Biscoe."

"Trepassey."

"Wyatt Earp."

"Discovery."

"Eagle."

"Penola."

"Endurance."

Another famous exploration ship, Shackleton's "Nimrod."

"Francais."

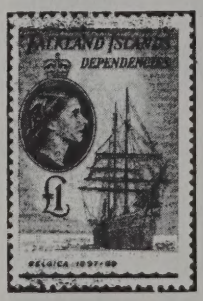
"Discovery II."

"William Scoresby."

"Deutschland."

"Pourquoi-Pas?"

"Scotia."



"Belgica."

"Antarctic."